

SEP 09 1998

EPA Region 5 Records Ctr.



368275

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

SEE ATTACHED SERVICE LIST

Re: **SPECIAL NOTICE OF LIABILITY**
Sauget Area 1 Site
Sauget/Cahokia, Illinois

Dear Sir or Madam:

The United States Environmental Protection Agency (U.S. EPA) has undertaken response actions at the Sauget Area 1 Site (the Site) pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. Section 9601 et seq., as amended by the Superfund Amendments and Reauthorization Act of 1986, Public Law 99-499 (CERCLA). These actions, which include extensive sampling in and around the Site and the consolidation and capping of wastes found at Sauget Area 1 Site G, have documented the release or threatened release of hazardous substances, pollutants, and contaminants at the Site. A list referencing the sampling activities and studies which have taken place in Sauget Area 1 Site is included in Attachment A. Specific findings from certain of these studies concerning the Site are presented in the proposed Administrative Order on Consent appended hereto as Attachment D.

Additional Response Actions

Unless U.S. EPA determines that a potentially responsible party (PRP) will voluntarily undertake the response action necessary at the Site, U.S. EPA may, under Section 104 of CERCLA, undertake the response action itself and, under Section 107 of CERCLA, seek reimbursement from PRPs of all costs incurred in connection with the action taken. Such costs may include, but are not limited to, expenditures for investigation, planning,

FINAL VERSION mailed to PRPs
on 9-9-98

response and enforcement activities. Moreover, under Section 106 of CERCLA, U.S. EPA may order responsible parties to implement relief actions deemed necessary by U.S. EPA to protect the public health, welfare or environment from an imminent and substantial endangerment because of an actual or threatened release of a hazardous substance from a Facility.

In addition to those further response actions enumerated above, U.S. EPA may, pursuant to its authorities under CERCLA and other laws, determine that other clean-up activities are necessary to protect public health, welfare and the environment.

PRP Determination

Potentially responsible parties (PRPs) under Section 107 of CERCLA include current owners and operators of the Site and former owners and operators of the Site at the time of disposal of hazardous substances, as well as persons who owned or possessed hazardous substances and arranged for disposal, treatment, or transportation of such hazardous substances and persons who accepted hazardous substances for transportation for disposal or treatment to a facility selected by such transporter. U.S. EPA has information indicating that you are a PRP with respect to the Site. A general description of the sources of information regarding PRPs at the Site is provided in Paragraph 1 of Attachment A to this letter. By this letter, U.S. EPA notifies you of your potential liability with regard to this matter and encourages you, as a PRP, to reimburse U.S. EPA for its costs incurred to date and to voluntarily perform or finance the response activities that the U.S. EPA has determined or will determine are required at the Site.

Special Notice and Negotiation

Pursuant to Section 122(e)(1) of CERCLA, U.S. EPA has determined that a period of negotiation may facilitate an agreement between the Sauget Area 1 PRPs and U.S. EPA for implementation or financing of the response action. Accordingly, U.S. EPA is contacting PRPs identified for the Sauget Area 1 Site to resolve their liability with respect to the Site. To assist the PRPs in negotiating with U.S. EPA concerning this matter, attached to this letter is a list of the names and addresses of other PRPs to whom this notification is being sent. It should be noted that inclusion on or exclusion from this list does not constitute a final determination by U.S. EPA concerning the liability of any party for remediation of the Site or for payment of past costs.

Upon your receipt of this Special Notice, you will have a maximum of 60 days to coordinate with any PRPs and to present to U.S. EPA a "good faith offer" to conduct and/or finance the remedial action to negotiate the terms of a administrative order on consent. In accordance with the requirements of Section 122(e)(2), during this 60-day moratorium, U.S. EPA will not commence remedial action at the Site. U.S. EPA may, however, commence any additional studies or investigations authorized under Section 104(b), and take any action at the Site should a significant threat to human health or the environment arise during the negotiation period.

Good Faith Offer

A "good faith offer" as referenced above shall include the following:

- * a statement of the PRPs' willingness to conduct or finance a CERCLA Engineering Evaluation and Cost Analysis (EE/CA) and Remedial Investigation and Feasibility Study (RI/FS) which are consistent with the proposed AOC and Statement of Work (SOW) and which provides a sufficient basis for further negotiations in light of U.S. EPA's SOW;
- * a detailed response to, and detailed comments, if any, on, the attached proposed AOC and SOW. If your offer contemplates modifications to the AOC or SOW, please make revisions or edits to the enclosed draft and submit a version to U.S. EPA showing any such modifications. Your response should provide reasons for or the basis of major revisions to the attached proposal.
- * a demonstration of the PRPs' technical capability to undertake the EE/CA and RI/FS. This includes that the PRPs identify the firm expected to conduct the work, or that the PRPs identify the process they will undertake to select a firm;
- * a demonstration of the PRPs' capability to finance the EE/CA and RI/FS;
- * a statement of the PRPs' willingness to reimburse U.S. EPA for past response and oversight costs; and
- * the name, address, and phone number of the party or steering committee who will represent the PRPs in negotiations.

If U.S. EPA receives from the Sauget Area 1 PRPs within the 60 day calendar period a written "good faith offer" which demonstrates the PRPs' qualifications and willingness to conduct or finance the EE/CA and RI/FS consistent with the attached AOC and SOW, U.S. EPA may extend its moratorium on commencement of the response action work up to an additional 30 calendar days. The purpose of this additional time is to allow the PRPs and U.S. EPA a period of time to finalize the settlement.

If a "good faith" proposal is not received within the initial 60-day moratorium, U.S. EPA, pursuant to Section 122(e)(4), may proceed to immediately undertake such further action as is authorized by law, utilizing public funds available to the Agency.

Demand for Costs Incurred

As mentioned above, in accordance with CERCLA and other authorities, U.S. EPA has already undertaken certain actions and incurred certain costs in response to conditions at the Site. Certain of these response actions are summarized in Paragraph 2 of Attachment A to this letter. As soon as practicable, U.S. EPA will send Respondent(s) a bill for "past response costs" at the Site. U.S. EPA's bill will include an Itemized Cost Summary. "Past response costs" are all costs, including, but not limited to, direct and indirect costs and interest, that the United States, its employees, agents, contractors, consultants, and other authorized representatives incurred and paid with regard to the Site prior to September, 1998. The Agency anticipates expending additional funds for response activities at the Site under the authority of CERCLA and other laws. In accordance with Section 107(a) of CERCLA, demand is also hereby made under these authorities for payment of all future costs that U.S. EPA may accrue in regard to the Site.

PRP List

As stated above, the attached list of the names and addresses of any other PRPs to whom this notification is being sent is provided to assist you in contacting other PRPs in this matter and to negotiate with U.S. EPA. This list is appended as Attachment B to this letter. Information regarding a ranking by volume and nature of substances contributed by each PRP, as contemplated by Section 122(e)(4)(A), is not available at this time. However, the AOC attached hereto as Attachment D sets

forth the areas within the Sauget Area 1 Site with which each PRP is associated.

Initial Conference

To further facilitate your and any other PRPs' ability to present a "good faith offer" within the 60-day time limit, an initial settlement conference will be held. An agenda indicating the topics for discussion is appended as Attachment C. A draft AOC and a SOW is enclosed as Attachment D.

90 Day Deadline

Except in extraordinary circumstances explained in a written request, no extension to the second 30 day moratorium period will be granted by U.S. EPA. As stated above, if no agreement can be reached, pursuant to Section 122(e)(4), U.S. EPA may immediately proceed to undertake such further action as authorized by law to conduct an EE/CA and RI/FS at the Site.

U.S. EPA Notification

As a potentially responsible party, you should notify U.S. EPA in writing within 10 days of receipt of this letter of your willingness to participate in negotiations to perform or finance the activities described above. If U.S. EPA does not receive a timely response, U.S. EPA will assume that you do not wish to negotiate a resolution of your potential responsibility in connection with the Site and that you have declined any involvement in performing the response activities.

The response should indicate the appropriate names, addresses, and telephone numbers for further contact with you. If you are already involved in discussions with state or local authorities, engaged in voluntary clean-up action or involved in a lawsuit regarding this Site, you should continue such activities as you see fit. This letter is not intended to advise or direct you to restrict or discontinue any such activities; however, you are advised to report the status of those discussions or actions in the response to this letter and to provide a copy of the response to any other parties involved in those discussions or actions. The response letter should be sent to:

Mike McAteer (SR-6J)
U.S. Environmental Protection Agency
77 W. Jackson Blvd.
Chicago, Illinois 60604

-and-

Thomas J. Martin (C-14J)
U.S. Environmental Protection Agency
77 W. Jackson Blvd.
Chicago, Illinois 60604

Natural Resource Trustee Notification

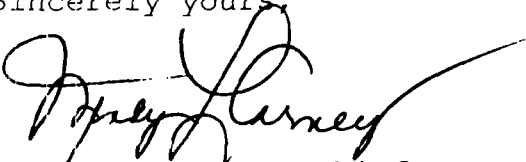
By a copy of this letter, U.S. EPA is notifying the State of Illinois and the Natural Resources Trustees, in accordance with Section 122(j) of CERCLA, of its intent to enter into negotiations concerning the conduct of an EE/CA and RI/FS at the Site, and is also encouraging them to consider participation in such negotiations.

Further Information

If you need further information regarding this letter, you may contact Mike McAteer of the Remedial and Enforcement Response Branch at (312) 886-4663. If you have an attorney handling your legal matters, please direct his or her questions to Thomas Martin of the Office of Regional Counsel, U.S. EPA, Region 5, at (312) 886-4273.

We hope that you will give this matter your immediate attention.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Wendy L. Carney", with a long, sweeping horizontal line extending to the right.

Wendy L. Carney, Chief
Remedial Response Branch #1

Enclosures

cc: (Letter and all Attachments):

Mary A. Gade, Director
Illinois Environmental Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

Brent Manning, Director
Illinois Department of Natural Resources
524 S. 2nd Street
Springfield, IL 62701-9225

Thomas Davis
Office of State Attorney General
500 South 2nd Street
Springfield, IL 62706-1771

Karen Yates
Office of Waste Programs
Illinois Environmental Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

ATTACHMENT A

1. The U.S. EPA has evaluated a large body of information and evidence in connection with its investigation of the Site, including:

- a. Items/Solid Waste/Drums/Waste Material Located Within Sauget Area 1 Site G
- b. Site G On-Scene Coordinator's Reports
- c. Village of Sauget Treatment Works Total Plant Loadings Forms
- d. U.S. EPA/IEPA/Monsanto Sample Results
- e. Title Searches
- f. Memos Regarding Toxic Waste Disposal Practices in Area
- g. Documents Regarding Products Sold in 1950s through 1960s
- h. Bureau of Water Pollution Control, IEPA, and Office of Attorneys General Memoranda Regarding Dead Creek;
- i. Easement Agreement Concerning Dead Creek
- j. CERCLA Section 104(e) Responses
- k. CERCLA Section 103(c) Notices
- l. Sampling Results for Sauget Area Two Sites R and O
- m. Municipal and Industrial Sewer Maps
- n. Cerro Copper Products Company v. Monsanto Corporation, Docket No. 92-CV-204 Deposition Transcripts

Based on the above, the U.S. EPA has information indicating that you are a potentially responsible party with respect to this Site. Specifically, the U.S. EPA has reason to believe that you are the owner/operator of the facility, or a former owner/operator of the facility at the time of disposal of hazardous substances at the facility.

2. The U.S. EPA and/or IEPA have conducted the following sampling/studies at the Site:

- a. ATSDR Health Report dated August 24, 1994
- b. Expanded Site Investigation Dead Creek Project Sites (E & E, 1988)
- c. Removal Action Plan for Dead Creek Sites (Weston-SPER, 1987)
- d. Description of Current Situation at the Dead Creek Project Sites (E & E, 1986)
- e. Site Investigations for Dead Creek Sector B and Sites L and M (Geraghty & Miller, Inc. 1992)

- f. Preliminary Ecological Risk Assessment for Sauget Area 1, Creek Segment F (E & E, 1997)
- g. Sauget Area 1 and 2 Sites - Data Tables/Maps (E & E, 1998)
- h. EPA Removal Action Report for Site G (E & E, 1994)
- i. Site G Title Search
- j. Area 1 Screening Site Inspection Report
- k. Site Investigation/Feasibility Study for Creek Segment A (Advent Group, 1990)

3. Response costs associated with the Site have been incurred by the U.S. EPA. The total U.S. EPA cost incurred for the above referenced studies and activities is currently being determined.

ATTACHMENT B

POTENTIALLY RESPONSIBLE PARTIES

Note: inclusion on or exclusion from the list does not constitute a final determination by the Agency concerning the liability of any party for remediation of Site conditions or payment of past costs.

1. Monsanto Chemical Co.
Attn: D. Michael Light
800 North Lindbergh Ave.
St. Louis, Missouri 63167
2. Solutia, Inc.
10300 Olive Blvd
P.O. Box 66760
St. Louis, MO 63166
3. Industrial Salvage & Disposal Co.
2700 Monsanto Ave.
Sauget, Illinois 62206
4. Sauget & Co.
2700 Monsanto Ave.
Sauget, Illinois 62206
5. Paul Sauget
2700 Monsanto Ave.
Sauget, Illinois 62206
6. Mobil Oil Corporation
150 East 42nd St.
New York, New York 10017
Attention: Dominick De Angelis
EHS Superfund Response Group
3225 Gallows Road
Fairfax, VA 22037
7. Cerro Copper Products Company
P.O. Box 66800
St. Louis, MO 63104
8. Harold Wiese
1445 Woodson Rd.
St. Louis, MO 63132

9. Weise Planning & Engineering
1200 Queeny Ave.
Sauget, IL 62206
10. Midwest Rubber Reclaiming Division of Empire Chem, Inc.
3101 Mississippi Ave.
Sauget, IL 62202-2349
11. Stanley Kreitman
345 Hudson Street
New York, NY 10014
12. Richard M. Cohen
601 N. Faring Road
Los Angeles, CA 90077
13. Morris Weissman
345 Hudson Street
New York, NY 10014
14. Amax Zinc
AMAX Center
Greenwich, CT 06836
15. Olin Corporation
501 Merritt 7
P.O. Box 4500
Norwalk, CT 06854
16. Cardinal Construction Company
4301 Date St.
East St. Louis, IL
17. Metro Construction Equipment Inc.
1300 Queeny Ave.
Sauget, IL 62206
18. Moto, Inc.
721 W. Main Street
P.O. Box 122
Belleville, IL 62220
19. Anheuser-Busch, Inc.
721 Pestalozzi
St. Louis, MO 63118
20. Eagle Marine Industries, Inc.
200 N. Broadway, Suite 1725
St. Louis, MO 63102

ATTACHMENT C

AGENDA FOR MEETING

Date, Time and Location to be determined.

Topics for discussion:

- *Background Information on the Site
- *Response Activities to Date
- *Liability of Responsible Parties Under CERCLA
- *Explanation of Expected PRP Response Activities
- *Structure of Consent Decree Negotiations

21. Notre Dame Fleeting and Towing
Eagle Marine Industries, Inc.
200 N. Broadway, Suite 1725
St. Louis, MO 63102
22. Union Electric Company
1901 Chouteau, MC 210
P.O. Box 66149
St. Louis, MO 63166-6149
23. Roger's Cartage
9150 Damen Ave.
Chicago, IL 60626
24. Village of Sauget
2897 Falling Springs Road
Sauget, IL 62206
25. Ruan Transport Corp.
666 Grand Ave.
P.O. Box 855
Des Moines, IA 50304
26. H.H. Hall Construction Co. Inc.
77 Saddle Ridge Road
Bethalto, IL 62010

ATTACHMENT D

Order on Consent/Scope of Work

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5

IN THE MATTER OF:	)	Docket No.
)	
SAUGET AREA 1 SITE	)	ADMINISTRATIVE ORDER BY
	)	CONSENT PURSUANT TO
SAUGET AND CAHOKIA, ILLINOIS	)	SECTION 106 OF THE
	)	COMPREHENSIVE
	)	ENVIRONMENTAL RESPONSE,
Respondent(s) :	)	COMPENSATION, AND
	)	LIABILITY ACT OF 1980,
See Attachment A	)	as amended, 42 U.S.C.
	)	§ 9606(a)
)	

I. JURISDICTION AND GENERAL PROVISIONS

This Administrative Order by Consent ("the Order") is entered voluntarily by the United States Environmental Protection Agency ("U.S. EPA") and the Respondents. The Order is issued pursuant to the authority vested in the President of the United States by Sections 104, 106(a), 107 and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended ("CERCLA"), 42 U.S.C. §§ 9604, 9606(a), 9607 and 9622. This authority has been delegated to the Administrator of the U.S. EPA by Executive Order No. 12580, January 23, 1987, 52 Federal Register 2923, and further delegated to the Regional Administrators by U.S. EPA Delegation Nos. 14-14-A, 14-14-C and 14-14-D, and to the Director, Superfund Division, Region 5, by Regional Delegation Nos. 14-14-A, 14-14-C and 14-14-D.

This Order requires the Respondents to conduct an Engineering Evaluation and Cost Analysis ("EE/CA") for the Sauget Area 1 source areas (Sites I, H, G, L, M and N) and the impacted portions of Area 1 (Dead Creek Segments ("CS") CS-A, CS-B, CS-C, CS-D, CS-E and CS-F and any possibly contaminated residential/commercial properties adjacent to these creek segments). This Order also requires the Respondents to conduct a Remedial Investigation and Feasibility Study (RI/FS) for Sauget Area 1 groundwater. The EE/CA and RI/FS shall evaluate response actions pursuant to 40 CFR Part 300.415(b)(4)(I), to address the environmental concerns in connection with the above listed areas of concern located within and surrounding the area designated as Sauget Area 1 (generally depicted in figure in attached SOW) located within the towns of Sauget and Cahokia, St. Clair County, Illinois.

A copy of this Order will also be provided to the State of Illinois, which has been notified of the issuance of this Order pursuant to Section 106(a) of CERCLA, 42 U.S.C. § 9606(a). The

U.S. EPA has also notified the Federal Natural Resource trustee of the negotiations in this action pursuant to the requirements of Section 122(j) of CERCLA.

Respondents' participation in this Order shall not constitute an admission of liability or of U.S. EPA's findings or determinations contained in this Order except in a proceeding to enforce the terms of this Order. Respondents agree to comply with and be bound by the terms of this Order. Respondents further agree that they will not contest the basis or validity of this Order or its terms.

II. PARTIES BOUND

This Order applies to and is binding upon U.S. EPA, and upon Respondents and Respondents' heirs, receivers, trustees, successors and assigns. Any change in ownership or corporate status of Respondents including, but not limited to, any transfer of assets or real or personal property shall not alter such Respondents' responsibilities under this Order. Respondents are jointly and severally liable for carrying out all activities required by this Order. Compliance or noncompliance by one or more Respondents with any provision of this Order shall not excuse or justify noncompliance by any other Respondent.

Respondents shall ensure that their contractors, subcontractors, and representatives receive a copy of this Order, and comply with this Order. Respondents shall be responsible for any noncompliance with this Order.

III. FINDINGS OF FACT

Based on available information, including the Administrative Record in this matter, U.S. EPA hereby finds, and, for purposes of enforceability of this Order only, the Respondents stipulate that the factual statutory prerequisites under CERCLA necessary for issuance of this Order have been met. U.S. EPA's findings and this stipulation include the following:

1. The source areas for Sauget Area 1 consist of six known disposal areas adjacent, or in close proximity, to Dead Creek. The six disposal areas are known as Sites I, H, G, L, M and N (see figure in attached SOW). The sites are labeled with letter designations for reference purposes only. The fact that source areas have separate letter designations does not necessarily mean that the areas are separate or distinct in terms of contents, ownership, and/or operating history.

SITE I: Located north of Queeny Avenue, west of Falling Springs Road and south of the Alton & Southern Railroad in

the Village of Sauget it occupies approximately 19 acres of land. Segment CS-A of Dead Creek borders Site I on the Site's western side. The site is currently graded and covered with crushed stone and used for equipment and truck parking. Site I was originally used as a sand and gravel pit which received industrial and municipal wastes. Site I is connected to Site H (see below) under Queeny Avenue and together they were known to be part of the "Sauget-Monsanto Landfill". The landfill operated from approximately 1931 to 1957. On information and belief, wastes from Site I leached and/or were released into CS-A and available downstream creek segments until CS-A was remediated in 1990. On information and belief, Site I served as a disposal area for contaminated sediments from historic dredgings of Dead Creek Segment A.

SITE H: Located south of Queeny Avenue, west of Falling Springs Road and west of the Metro Construction Company property in the Village of Sauget, it occupies approximately 5 to 7 acres of land. The southern boundary of Site H is not known with certainty but it is estimated that the fill area extends approximately 1,250 feet south of Queeny Avenue. Site H is connected to Site I under Queeny Avenue and together they were known to be part of the Sauget-Monsanto Landfill which operated from approximately 1931 to 1957. Site H is not currently being used and the property is graded and grass-covered with some areas of exposed slag.

SITE G: Located south of Queeny Avenue, east of (and possibly under) the Wiese Engineering facility, and north of a cultivated field in the Village of Sauget. CS-B of Dead Creek is located along the eastern boundary of the Site. This site is approximately 5 acres in size and it was operated and served as a disposal area from approximately 1952 to the late 1980's. The Site was fenced in 1988 pursuant to a U.S. EPA removal action under CERCLA. On information and belief, wastes located on the surface and/or in the subsurface of Site G have spontaneously combusted and/or burned for long periods of time on several occasions. U.S. EPA conducted a second CERCLA removal action at Site G in 1995. This removal action involved the excavation of PCB, organics, metals, and dioxin contaminated soils on and surrounding Site G, solidification of open oil pits on the Site, and covering part of the Site (including the excavated contaminated soils) with a clean soil cap approximately 18 to 24 inches thick. Site G is enclosed by a fence and is not currently being used. The property is vegetated.

On information and belief, wastes from Site G have in the the past and potentially continue to leach and/or release into CS-B and available downstream creek segments.

SITE L: Located immediately east of Dead Creek CS-B and south of the Metro Construction Company property in the Village of Sauget. Site L is the former location of two surface impoundments used from approximately 1971 to 1981 for the disposal of wash water from truck cleaning operations. This site is now covered by black cinders and is used for equipment storage. On information and belief, Site L wastes have migrated into Site M (see below).

SITE M: Located along the eastern side of Dead Creek CS-B (south of Site L) at the western end of Walnut Street in the Village of Cahokia. Site M was originally used as a sand borrow pit (dimensions = 220 feet by 320 feet) in the mid to late 1940's. The pit is hydrologically connected to Dead Creek through an eight foot opening at the southwest portion of the pit. On information and belief, wastes from CS-B have in the past and potentially continue to migrate into Site M via this connection. The site is currently fenced.

SITE N: Located along the eastern side of Dead Creek CS-C, south of Judith Lane and north of Cahokia Street in the Village of Cahokia. This Site encompasses approximately 4 to 5 acres of previously excavated land used to dispose of concrete rubble and demolition debris. The excavation began in the 1940's and the site is currently inactive and fenced.

DEAD CREEK SEGMENTS A THROUGH F: Dead Creek stretches from the Alton & Southern Railroad at its northern end and flows south through Sauget and Cahokia for approximately 3.5 miles before emptying into the Old Prairie du Pont Creek, which flows approximately 2,000 feet west into a branch of the Mississippi River known as the Cahokia Chute. For many years, Dead Creek has been a repository for local area wastes. On December 21, 1928, an easement agreement between local property owners and representatives of local business, municipal and property interests was executed to "improve the drainage in that District (Dead Creek) by improving Dead Creek so as to make it suitable for the disposal of wastewater, industrial waste, seepage and storm water." Thereafter, Dead Creek systematically received direct and indirect discharges from local businesses and from the Village for many years to come.

Creek Segment CS-A is the northernmost segment of the creek. It is approximately 1,800 feet long and 100 feet wide, running from the Alton & Southern Railroad to Queeny Avenue. This segment of the creek originally consisted of two holding ponds which were periodically dredged. For several years, CS-A and available downstream creek segments (e.g., ones that were not blocked off) received direct wastewater discharges from

industrial sources and served as a surcharge basin for the Village of Sauget (formerly Village of Monsanto) municipal sewer collection system. When the system became backed up or overflowed, untreated wastes from industrial users of the sewer system were discharged directly into CS-A. On several occasions, CS-A was dredged and contaminated sediments were disposed of onto adjacent Site I. In 1968, the Queeny Avenue culvert, which allowed creek water to pass from CS-A to CS-B, was permanently blocked by the Village of Sauget.

Remediation work was conducted by Cerro Copper in CS-A in 1990. Approximately 27,500 tons of contaminated sediments were removed to RCRA and TSCA permitted facilities. CS-A is now filled and covered with crushed gravel. Land use surrounding CS-A is industrial.

Creek Segment CS-B extends for approximately 1,800 feet from Queeny Avenue south to Judith Lane. Sites G, L, and M border this creek segment. Land use surrounding CS-B is primarily commercial with a small residential area near the southern end of this segment. Agricultural land lies to the west of the creek and south of Site G. In 1965, the Judith Lane culvert, which allowed creek water to pass from CS-B to CS-C, was blocked. CS-B is hydrologically connected to Site M by a man-made ditch (see above).

Creek Segment CS-C extends for approximately 1,300 feet from Judith Lane south to Cahokia Street. Site N borders this creek segment. Land use is primarily residential along both sides of CS-C.

Creek Segment CS-D extends for approximately 1,100 feet from Cahokia Street to Jerome Lane. Land use is primarily residential along both sides of CS-D.

Creek Segment CS-E extends approximately 4,300 feet from Jerome Lane to the intersection of Illinois Route 3 and Route 157. Land use surrounding CS-E is predominantly commercial with some mixed residential use. Dead Creek temporarily passes through corrugated pipe at the southern end of CS-E.

Creek Segment CS-F is approximately 6,500 feet long and extends from Route 157 to the Old Prairie du Pont Creek. CS-F is the widest segment of Dead Creek and a large wetland area extends several hundred feet out from the both sides of the creek.

2. Information on the types of wastes disposed of and the types and levels of contamination found at the Sauget Area 1 Site have been provided to U.S. EPA from various sources, including, but not exclusively from: 1) CERCLA 103(c) Submittals; 2) CERCLA 104(e) Responses; 3) Expanded Site Investigation Dead Creek Project Sites (E & E, 1988); 4) Removal Action Plan for Dead Creek Sites (Weston-SPER, 1987); 5) Description of Current Situation at the Dead Creek Project Sites (E & E, 1986); 6) Site Investigations for Dead Creek Sector B and Sites L and M (Geraghty & Miller, Inc. 1992); 7) Site Investigation/Feasibility Study for Creek Segment A (Advent Group, 1990); 8) Preliminary Ecological Risk Assessment for Sauget Area 1, Creek Segment F (E & E, 1997); 9) EPA Removal Action Report for Site G (E & E 1994); 10) Area One Screening Site Inspection Report; and 11) Site Investigation Feasibility Study for Creek Segment A (Advent Group 1990).

Known contaminants at the Sauget Area 1 Site are as follows:

SITE I: On information and belief, this site accepted chemical wastes from approximately 1937 to the late 1950's. Municipal wastes were also disposed of in Site I. Site I contains approximately 250,000 cubic yards of contaminated wastes and fill material. No subsurface containment is in place beneath Site I. Soil samples collected from Site I have revealed elevated levels of volatile organic compounds (VOCs) such as 1,1,1-trichloroethane (1,692 ppb), trichloroethene (3,810 ppb), benzene (24,130 ppb), tetrachloroethene (5,265 ppb), toluene (77,910 ppb), chlorobenzene (126,900 ppb), ethyl benzene (15,070 ppb), and total xylenes (19,180 ppb). Soil samples also revealed elevated levels of semi-volatile organic compounds (SVOCs) such as 1,3-dichlorobenzene (70,140 ppb), 1,4-dichlorobenzene (1,837,000 ppb), 1,2-dichlorobenzene (324,000 ppb), naphthalene (514,500 ppb), and hexachlorobenzene (1,270,000 ppb). Soil samples also revealed elevated levels of polychlorinated biphenyls (PCBs), such as arochlor 1260 (342,900 ppb), and the pesticides 4,4-DDD (29,694 ppb), 4,4-DDT (4,305 ppb) and toxaphene (492,800 ppb). Elevated levels of metals were also found in soils, such as beryllium (1,530 ppm), copper (630 ppm), lead (23,333 ppm), zinc (6,329 ppm) and cyanide (3,183 ppm).

Groundwater samples collected from beneath Site I have revealed elevated levels of VOCs such as vinyl chloride (790 ppb), trichloroethene (279 ppb), benzene (1,400 ppb), tetrachloroethene (470 ppb), toluene (740 ppb), and chlorobenzene (3,100 ppb). Elevated levels of SVOCs were also detected in groundwater, such as phenol (1,800 ppb),

bis-(2-chloroethoxy)methane (2,900 ppb), 1,2,4-trichlorobenzene (2,700 ppb), 4-chloroaniline (9,600 ppb), and pentachlorophenol (2,400 ppb).

SITE H: Due to the physical connection to Site I, waste disposal at Site H was similar to that at Site I. Chemical wastes were disposed of here from approximately 1931 to 1957. Wastes included drums of solvents, other organics and inorganics, including PCBs, para-nitro-aniline, chlorine, phosphorous pentasulfide, and hydrofluosilic acid. Municipal wastes were also reportedly disposed of at Site H. The estimated volume of wastes in Site H is 110,000 cubic yards. There is no containment beneath Site H. Soil samples collected at Site H revealed elevated levels of VOCs such as benzene (61,290 ppb), tetrachloroethene (5,645 ppb), toluene (76,450 ppb), chlorobenzene (451,613 ppb), ethyl benzene (12,788 ppb), and total xylenes (23,630 ppb). Elevated levels of SVOCs were also found in soil samples such as 1,4-dichlorobenzene (30,645,161 ppb), 1,2-dichlorobenzene (19,354,839 ppb), 1,2,4-trichlorobenzene (7,580,645 ppb), 4-nitroaniline (1,834,000 ppb), phenanthrene (2,114,000 ppb), and fluoranthene (1,330,000 ppb). Soil samples also revealed elevated levels of PCBs such as arochlor 1260 (18,000,000 ppb), and pesticides 4,4-DDE (780 ppb), 4,4-DDD (431 ppb), and 4,4-DDT (923 ppb). Elevated levels of metals were found such as arsenic (388 ppm), cadmium (294 ppm), copper (2,444 ppm), lead (4,500 ppm), manganese (36,543 ppm), mercury (3.9 ppm), nickel (15,097 ppm), silver (44 ppm), and zinc (39,516 ppm).

Groundwater samples collected from beneath Site H revealed elevated levels of VOCs such as chloroform (3,000 ppb), benzene (4,300 ppb), and toluene (7,300 ppb). Elevated levels of SVOCs were detected in groundwater such as phenol (950 ppb) and pentachlorophenol (650 ppb). An elevated level of PCBs (arochlor 1260 at 52 ppb) was also detected in groundwater at Site H. Elevated levels of metals were also detected in groundwater such as arsenic (8,490 ppb), copper (2,410 ppb), nickel (17,200 ppb) and cyanide (480 ppb).

SITE G: Operated as a landfill from approximately 1952 to 1966. The site was subject to intermittent dumping thereafter until 1988, when the Site was fenced. There is an estimated 60,000 cubic yards of wastes within Site G, including oil pits, drums containing wastes, paper wastes, documents and lab equipment. Soil samples collected from Site G revealed elevated levels of VOCs such as chloroform (11,628 ppb), benzene (45,349 ppb), tetrachloroethene (58,571 ppb), chlorobenzene (538,462 ppb), and total xylenes (41,538 ppb). Soil samples also revealed elevated levels of SVOCs such as phenol (177,800 ppb), naphthalene (5,428,571

ppb), 2,4,6-trichlorophenol (49,530 ppb), and pentachlorophenol (4,769,231 ppb). Elevated levels of the pesticide 4,4-DDE were detected up to 135,385 ppb. Elevated levels of PCBs were detected at levels as high as 174,419 ppb (arochlor 1248) and 5,300,000 ppb (arochlor 1260). Dioxin levels in soils at Site G were detected at levels as high as 44,974 ppb. Metals were detected at elevated concentrations such as arsenic (123 ppm), barium (45,949 ppm), copper (2,215 ppm), lead (3,123 ppm), mercury (34.3 ppm), nickel (399 ppm), and zinc (4,257 ppm). Samples collected from wastes which appeared to be a pure solid product material on Site G revealed PCB levels as high as 3,000,000 ppb and dioxin levels in excess of 50,661 ppb.

Groundwater samples collected from beneath Site G revealed elevated levels of VOCs such as trans-1,2-dichloroethene (200 ppb), 1,2-dichloroethane (480 ppb), trichloroethene (800 ppb), benzene (4,100 ppb), tetrachloroethene (420 ppb), toluene (7,300 ppb), and ethyl benzene (840 ppb). Elevated levels of SVOCs were detected such as 1,2,4-trichlorobenzene (1,900 ppb), naphthalene (21,000 ppb), 4-chloroaniline (15,000 ppb), and 2,4,6-trichlorophenol (350 ppb). An elevated concentration of PCBs was detected at 890 ppb (arochlor 1260). Elevated metals in groundwater beneath Site G included arsenic (179 ppb), mercury (2.1 ppb), nickel (349 ppb), zinc (1,910 ppb) and cyanide (350 ppb).

SITE L: This site was originally used as a disposal impoundment from approximately 1971 to 1981. The volume of contaminated fill material in Site L is not known, however, the area of the impoundment is estimated to be 7,600 square feet. There is no known containment of wastes beneath Site L. Soil samples collected at Site L revealed elevated levels of VOCs such as chloroform (20,253 ppb), benzene (4,177 ppb), and toluene (26,582 ppb). Elevated levels of SVOCs were also detected such as 2-chlorophenol (2,152 ppb), pentachlorophenol (58,228 ppb), and di-n-butyl phthalate (2,784 ppb). Total PCBs were found at a level of 500 ppm in soils. Elevated levels of metals were detected such as antimony (32 ppm), arsenic (172 ppm), and nickel (2,392 ppm).

Groundwater samples collected from beneath Site L revealed elevated levels of VOCs such as chloroform (730 ppb) and benzene (150 ppb). SVOCs were also detected in groundwater such as phenol (150 ppb), 2-chlorophenol (130 ppb), 4-methyl phenol (75 ppb), 2-nitrophenol (41 ppb), and 4-chloroaniline (60 ppb). Elevated levels of metals in groundwater included arsenic (14,000 ppb), cadmium (32 ppb) and zinc (2,210 ppb).

SITE M: Originally constructed as a sand borrow pit in the mid to late 1940's, this pit is approximately 59,200 square feet in size and previous investigations indicate that approximately 3,600 cubic yards of contaminated sediments are contained within the pit. It is estimated that the pit is approximately 14 feet deep and it is probable that there is a hydraulic connection between this pit water and the underlying groundwater. Surface water samples collected from Site M revealed elevated levels of VOCs such as chloroform (27 ppb), toluene (19 ppb) and chlorobenzene (33 ppb). SVOCs detected in surface water included phenol (28 ppb), 2-chlorophenol (14 ppb), 2,4-dimethyl phenol (13 ppb), 2,4-dichlorophenol (150 ppb), and pentachlorophenol (120 ppb). Pesticides detected in surface water include dieldrin (0.18 ppb), endosulfan II (.06 ppb), 4,4-DDT (0.24 ppb), 2,4-D (47 ppb) and 2,4,5-TP (Silvex) (3.4 ppb). PCBs were also detected in surface water at a maximum level of 0.0044 ppb.

Sediment samples collected from Site M revealed elevated levels of VOCs such as 2-butanone (14,000 ppb), chlorobenzene (10 ppb) and ethyl benzene (0.82 ppb). SVOCs detected in sediments included 1,4-dichlorobenzene (40 ppm), 1,2-dichlorobenzene (26 ppm), 1,2,4-trichlorobenzene (14 ppm), pyrene (27 ppm), fluoranthene (21 ppm), chrysene (12 ppm), and benzo(b)fluoranthene (15 ppm). Total PCB levels were detected as high as 1,100 ppm. Elevated levels of metals were also detected in sediments at Site M, including antimony (41.2 ppm), barium (9,060 ppm), cadmium (47.2 ppm), copper (21,000 ppm), nickel (2,490 ppm), silver (26 ppm), zinc (31,600 ppm), lead (1,910 ppm), arsenic (94 ppm) and cyanide (1.3 ppm).

SITE N: Initially developed as a borrow pit in the 1940's, this Site has been filled with concrete rubble, scrap wood and other demolition debris. The depth of the fill may be as much as 30 feet and it occupies approximately 4 to 5 acres of land. Soil samples collected from Site N revealed the presence of SVOCs such as phenanthrene (434 ppb), fluoranthene (684 ppb), and pyrene (553 ppb). An elevated level of mercury (9 ppm) was also detected in soil at Site N.

CREEK SEGMENT CS-A: Approximately 20,000 cubic yards of contaminated material were removed from this segment of Dead Creek in 1990, and the area was then backfilled with clean material. The assumption that only low-levels of residual contamination may currently exist within CS-A is yet to be confirmed. Prior to remediation activities, soil and sediment samples collected from CS-A revealed elevated levels of VOCs such as 1,2-dichloroethene (15,000 ppb),

trichloroethene (100,000 ppb), tetrachloroethene (11,000 ppb), chlorobenzene (31,000 ppb), ethyl benzene (80,000 ppb), and xylene (500,000 ppb). Elevated levels of SVOCs detected in soils and sediments included 1,3-dichlorobenzene, 4-chloroaniline (17,000 ppb), acetophenone (24,000 ppb), 1,2,4,5-tetrachlorobenzene (28,000 ppb), pentachlorobenzene (37,000 ppb), phenanthrene (14,000 ppb), and pyrene (10,000 ppb). Elevated levels of PCBs (total) were also detected at a maximum concentration of 3,145,000 ppb. Elevated levels of metals were also detected in soils and sediments in CS-A including silver (348 ppm), arsenic (194 ppm), cadmium (532 ppm), copper (91,800 ppm), mercury (124 ppm), nickel (6,940 ppm), lead (32,400 ppm), antimony (356 ppm), selenium (41.6 ppm), and zinc (26,800 ppm).

CREEK SEGMENT CS-B: Elevated levels of VOCs and SVOCs were detected in sediments samples collected from CS-B such as benzene (87 ppb), toluene (810 ppb), chlorobenzene (5,200 ppb), ethyl benzene (3,600 ppb), trichlorobenzene (3,700 ppm), dichlorobenzene (12,000 ppm), chloronitrobenzene (240 ppm), xylenes (540 ppm), 1,4-dichlorobenzene (220,000 ppb), 1,2-dichlorobenzene (17,000 ppb), phenanthrene (15,000 ppb), fluoranthene (11,000 ppb), pyrene (13,000 ppb). Elevated levels of PCBs exist within CS-B at levels as high as 10,000 ppm. Elevated levels of metals were also detected in sediments in CS-B including arsenic (6,000 ppm), cadmium (400 ppm), copper (44,800 ppm), lead (24,000 ppm), mercury (30 ppm), nickel (3,500 ppm), silver (100 ppm), and zinc (71,000 ppm).

Surface water samples collected from CS-B revealed elevated concentrations of VOCs such as chloroform (27 ppb), 1,1-dichloroethene (3 ppb), toluene (20 ppb), and chlorobenzene (33 ppb). SVOCs detected in surface water included phenol (28 ppb), 2-chlorophenol (14 ppb), 1,4-dichlorobenzene, 2-methyl phenol (4 ppb), 4-methyl phenol (35 ppb), 2,4-dichlorophenol (150 ppb), naphthalene (8 ppb), 3-nitroaniline (9 ppb), and pentachlorophenol (120 ppb). Pesticides were also detected in surface water samples including dieldrin (0.18 ppb), 4,4-DDT (0.24 ppb), 2,4-D (47 ppb) and Silvex (3.4 ppb). An elevated level of PCBs (aroclor 1260) was also detected in the surface water of CS-B at a level of 44 ppb. Elevated levels of metals were detected in surface water such as aluminum (9,080 ppb), barium (7,130 ppb), arsenic (31 ppb), cadmium (25 ppb), chromium (99 ppb), copper (17,900 ppb), lead (1,300 ppb), mercury (8.6 ppb), nickel (1,500 ppb), and zinc (10,300 ppb).

CREEK SEGMENT CS-C: Elevated levels of VOCs and SVOCs were detected in sediments in this segment of Dead Creek

including fluoranthene (4,600 ppb), pyrene (4,500 ppb), benzo(a)anthracene (3,300 ppb), chrysene (4,400 ppb), benzo(b)fluoranthene (7,500 ppb), benzo(a)pyrene (4,500 ppb), indeno(1,2,3-cd)pyrene (4,300 ppb), benzo(g,h,i)perylene (1,500 ppb), dibenzo(a,h)anthracene (4,000 ppb), and 4-methyl-2-pentanone (1,200 ppb). PCBs (total) were also detected in sediments from CS-C at a maximum concentration of 27,500 ppb. Sediment samples also revealed elevated levels of metals such as copper (17,200 ppm), lead (1,300 ppm), nickel (2,300 ppm), zinc (21,000 ppm) and mercury (2.81 ppm).

Surface water samples collected from creek segment CS-C revealed elevated levels of metals such as lead (710 ppb), mercury (1.9 ppb), and nickel (83 ppb).

CREEK SEGMENT CS-D: Elevated concentrations of VOCs and SVOCs were detected in sediment samples collected from CS-D including 4-methyl-2-pentanone (1,200 ppb), benzo(b)fluoranthene (500 ppb), indeno(1,2,3-cd)pyrene (310 ppb), and dibenzo(a,h)anthracene (360 ppb). PCBs (total) were detected in sediments at a maximum concentration of 12,000 ppb. Elevated concentrations of metals were also detected such as cadmium (42 ppm), copper (1,630 ppm), lead (480 ppm), mercury (1 ppm), and zinc (6,590 ppm).

Surface water samples collected from CS-D revealed elevated concentrations of metals such as cadmium (8.1 ppb), lead (89 ppb), and nickel (189 ppb).

CREEK SEGMENT CS-E: Elevated concentrations of VOCs and SVOCs were detected in sediment samples collected from CS-E including chlorobenzene (120 ppb), pyrene (5,300 ppb), benzo(b)fluoranthene (2,400 ppb), and chrysene (2,800 ppb). Elevated levels of PCBs (total) were also detected at a maximum concentration of 59,926 ppb. Elevated levels of metals were also detected in the sediments of CS-E including cadmium (23.1 ppm), copper (8,540 ppm), lead (1,270 ppm), mercury (1.53 ppm), nickel (2,130 ppm), and zinc (9,970 ppm).

CREEK SEGMENT CS-F: Elevated concentrations of VOCs and SVOCs were detected in the sediments of CS-F such as toluene (29 ppb), 4-methyl phenol (1,100 ppb), fluoranthene (310 ppb), and pyrene (340 ppb). Pesticides were also detected in the sediments such as 4,4-DDE (97 ppb), endrin (66 ppb), endosulfate II (105 ppb), and methoxychlor (8 ppb). PCBs (total) were also detected in sediments at a maximum concentration of 5,348 ppb. Elevated levels of metals were also detected in the sediments such as arsenic (276 ppm), lead (199 ppm), mercury (0.55 ppm), cadmium (23.5 ppm),

copper (520 ppm), nickel (772 ppm) and zinc (4,520 ppm). Elevated concentrations of dioxins were also detected in sediments in CS-F at a maximum concentration of 211 picograms per gram.

3. On information and belief, parties which generated wastes which were disposed of, released into and/or transported wastes to the Sauget Area 1 Site (including parties whose wastes migrated from various disposal areas into other Sites or segments of Dead Creek), include but are not limited by the following:

SITE I: Monsanto Corporation/Solutia, Incorporated; Cerro Copper Products Company; Cardinal Construction Company; Amax Zinc Corporation; and Mobil Oil Corporation; Ethyl Petroleum; Village of Sauget; Olin Corporation.

SITE H: Monsanto Corporation/Solutia, Incorporated.

SITE G: Monsanto Corporation/Solutia, Incorporated; Mobil Oil Corporation; Weise Planning and Engineering, Inc.

SITE L: Waggoner & Company; Monsanto Corporation/Solutia, Incorporated; and Ruan Transportation; Olin Corporation.

SITE M: Monsanto Corporation/Solutia, Incorporated; Waggoner & Company; and Ruan Transportation; Mobil Oil Corporation; Cerro Copper Products, Inc.; Midwest Rubber Reclaiming (Division of Empire Chemical Incorporated) and Midwest Rubber Trustees Stanley Keitman, Richard M. Cohen, and Morris Weissman.

SITE N: H.H. Hall Construction Company.

DEAD CREEK SEGMENT CS-A: Monsanto Corporation Company/Solutia, Incorporated; Cerro Copper Products Company; Amax Zinc Corporation; Mobil Oil Corporation; Ethyl Petroleum and the Village of Sauget; Cardinal Construction Co.; Olin Corporation.

DEAD CREEK SEGMENT CS-B: Monsanto Corporation Company/Solutia, Incorporated; Midwest Rubber Reclaiming (Division of Empire Chemical Incorporated) and Midwest Rubber Trustees Stanley Keitman, Richard M. Cohen, and Morris Weissman; Cerro Copper Products Company; Mobil Oil Corporation; Ruan Transportation Corporation; Waggoner & Company; Industrial Disposal, Inc.; Sauget and Company, Paul Sauget; Olin Corporation.

DEAD CREEK SEGMENTS C, D, E or F: Monsanto Corporation/Solutia, Incorporated; Cerro Copper Products Company; Mobil Oil Company; Amax Zinc Corporation; Midwest Rubber Reclaiming (Division of Empire Chemical Incorporated) and Midwest Rubber Trustees Stanley Keitman, Richard M. Cohen, and Morris Weissman; Ruan Transportation Corporation; and Waggoner & Company; Industrial Disposal, Inc.; Sauget and Company; Paul Sauget.

4. On information and belief, parties which own and/or operate, or previously owned and/or operated, portions of the waste disposal areas (including individuals/parties that own/owned and/or operate/operated property where wastes migrated to) at Sauget Area 1 include but are not limited to the following:

SITE G: Harold Wiese; Cerro Copper Products Company.

SITE H: Leo Sauget; Rogers Cartage Company.

SITE I: Leo Sauget; Paul Sauget; Cerro Copper Products Company; Alton & Southern Railroad; Village of Sauget.

SITE L: Tony and Velma Lechner (Metro Construction Equipment); Keeley L. Paving and Construction Company; Ruan Transport Corporation; and Harold Waggoner (Waggoner & Company); Rogers Cartage.

SITE M: H.H. Hall Construction Company, Incorporated;

SITE N: Leo Sauget; Mobil Oil Corporation; H.H. Hall Construction Company, Incorporated.

DEAD CREEK SEGMENT CS-A: Cerro Copper Products, Incorporated; Alton & Southern Railroad.

DEAD CREEK SEGMENT CS-B: Cerro Copper Products, Incorporated; Genex; Metro Construction Equipment Incorporated; and Moto, Incorporated; Harold Wiese.

DEAD CREEK SEGMENTS C, D, E or F: Genex; Mobil Oil Corporation; Anheuser-Busch, Inc.; Eagle Marine Industries; Norfolk Southern Corporation; Notre Dame Fleeting and Towing; Union Electric Company.

IV. CONCLUSIONS OF LAW AND DETERMINATIONS

Based on the Findings of Fact set forth above, and the Administrative Record in this matter, U.S. EPA has determined that:

1. The Sauget Area 1 Site is a "facility" as defined by Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).
2. The substances described in Section III, paragraph 2 are "hazardous substances" as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).
3. Each Respondent is a "person" as defined by Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).
4. Respondents listed in Section III, paragraph 4, are the past and present "owners" or operators of the Sauget Area 1 Site, as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20). The Respondents listed in Section III, paragraph 3, are persons who generated or who arranged for disposal or transport for disposal of hazardous substances at the Sauget Area 1 Site. Respondents are therefore liable persons under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a).
5. The conditions described in the Findings of Fact above constitute an actual or threatened "release" into the "environment" as defined by Sections 101(8) and (22) of CERCLA, 42 U.S.C. §§ 9601(8) and (22).
6. The conditions present at the Site constitute a threat to public health, welfare, or the environment based upon the factors set forth in Section 300.415(b)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan, as amended ("NCP"), 40 CFR Part 300. These factors include, but are not limited to, the following:
 - a. actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, pollutants or contaminants; this factor is present at the Site due to the presence of elevated levels of contaminants, including VOCs, SVOCs, PCBs, dioxins, pesticides, and metals, in the surface soils, sediments and surface water of the disposal areas of the Site (i.e., Sites I, H, G, L, M, and N) and in all segments of Dead Creek (CS-A through CS-F).
 - b. actual or potential contamination of drinking water supplies or sensitive ecosystems; this factor is present at the Site due to the presence of elevated levels of contaminants, including VOCs, SVOCs, and metals, in groundwater. Although the source of drinking water for local residents is assumed to be primarily

from surface water sources located upstream of the Site, many residences in the Site area continue to use private wells for domestic uses, which could include occasional uses for drinking water purposes. Further, contaminated groundwater is discharging into Dead Creek and adjacent wetland areas. Elevated levels of VOCs, SVOCs and metals have been detected in the creek water and adjacent wetland areas particularly in Creek Segment CS-F. Dead Creek and its wetland areas contain a variety of ecosystems which may be damaged by the types of contamination found at Sauget Area 1.

c. high levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate; this factor is present at the Site due to the existence of elevated levels of VOCs, SVOCs, PCBs, dioxins and metals in soil at the Site.

d. weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released; this factor is present at the Site due to existence of elevated levels of VOCs, SVOCs, PCBs, dioxins and metals in the sediments of Dead Creek which may be spread to surrounding residential and commercial properties during high water periods in the creek or during dry weather periods causing the sediments to become exposed and susceptible to wind action.

e. threat of fire or explosion; this factor is present at the Site due to the fact that fires have occurred on Site G as a result of incompatible materials disposed of within this Site. These fires have the ability to smolder for long periods of time and thereby release contaminants such as PCBs, dioxins and other organics into nearby residential areas and workplaces.

7. The actual or threatened release of hazardous substances from the Site may present an imminent and substantial endangerment to the public health, welfare, or the environment within the meaning of Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

8. The actions required by this Order, if properly performed, are consistent with the NCP, 40 CFR Part 300, as amended, and with CERCLA, and are reasonable and necessary to protect the public health, welfare, and the environment.

V. ORDER

Based upon the foregoing Findings of Fact, Conclusions of Law and Determinations and the Administrative Record for this Site, it is hereby ordered and agreed that Respondents shall comply with the following provisions, including but not limited to all attachments to this Order, and all documents incorporated by reference into this Order, and perform the following actions:

1. Designation of Contractor, Project Coordinator, On-Scene Coordinator or Remedial Project Manager

Respondents shall perform the actions required by this Order themselves or retain a contractor to undertake and complete the requirements of this Order. Respondents shall notify U.S. EPA of Respondents' qualifications or the name and qualifications of such contractor, whichever is applicable, within 10 business days of the effective date of this Order. Respondents shall also notify U.S. EPA of the name and qualifications of any other contractors or subcontractors retained to perform work under this Order at least 5 business days prior to commencement of such work. U.S. EPA retains the right to disapprove of the Respondents or any of the contractors and/or subcontractors retained by the Respondents. If U.S. EPA disapproves a selected contractor, Respondents shall retain a different contractor within 5 business days following U.S. EPA's disapproval, and shall notify U.S. EPA of that contractor's name and qualifications within 8 business days of U.S. EPA's disapproval.

Within 5 business days after the effective date of this Order, the Respondents shall designate a Project Coordinator who shall be responsible for administration of all the Respondents' actions required by the Order. Respondents shall submit the designated coordinator's name, address, telephone number, and qualifications to U.S. EPA. U.S. EPA retains the right to disapprove of any Project Coordinator named by the Respondents. If U.S. EPA disapproves a selected Project Coordinator, Respondents shall retain a different Project Coordinator within 8 business days following U.S. EPA's disapproval and shall notify U.S. EPA of that person's name and qualifications within 9 business days of U.S. EPA's disapproval. Receipt by Respondents' Project Coordinator of any notice or communication from U.S. EPA relating to this Order shall constitute receipt by all Respondents.

The U.S. EPA has designated Michael McAteer of the Remedial Response Branch, Region 5, as its Remedial Project Manager ("RPM"). Respondents shall direct all submissions required by this Order to the RPM at 77 West Jackson Boulevard, (SR-6J), Chicago, Illinois 60604-3590, by certified or express mail. Respondents shall also send a copy of all submissions to Thomas Martin, Associate Regional Counsel, 77 West Jackson Boulevard, (C-14J), Chicago, Illinois, 60604-3590. All Respondents are encouraged to make their submissions to U.S. EPA on recycled paper (which includes significant postconsumer waste paper content where possible) and using two-sided copies.

U.S. EPA and Respondents shall have the right, subject to the immediately preceding paragraph, to change their designated RPM or Project Coordinator. U.S. EPA shall notify the Respondents, and Respondents shall notify U.S. EPA, as early as possible before such a change is made, but in no case less than 24 hours

before such a change. The initial notification may be made orally but it shall be promptly followed by a written notice within two business days of oral notification.

2. Work to Be Performed

Respondents shall develop and submit to U.S. EPA an EE/CA report and RI/FS report in accordance with the attached Scope of Work ("SOW"). This SOW is incorporated into and made an enforceable part of this Order.

The EE/CA Report shall be consistent with, U.S. EPA guidance entitled, "Guidance on Conducting Non-Time Critical Removal Actions Under CERCLA", EPA/540-R-93-057, Publication 9360.32, PB 93-963402, dated August 1993. The RI/FS report shall be consistent with, at a minimum, U.S. EPA guidance entitled, "Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA" (U.S. EPA, Office of Emergency and Remedial Response, October, 1988) and any other guidances that U.S. EPA uses in conducting a RI/FS.

2.1 EE/CA and RI/FS Support Sampling Plan

Within 30 calendar days of the effective date of this Order, the Respondents shall submit to U.S. EPA for approval a draft EE/CA and RI/FS Support Sampling Plan that is consistent with this Order and the SOW.

U.S. EPA may approve, disapprove, require revisions to, or modify the draft EE/CA and RI/FS Support Sampling Plan. If U.S. EPA requires revisions, Respondents shall submit a revised Support Sampling Plan incorporating all of U.S. EPA's required revisions within 21 calendar days of receipt of U.S. EPA's notification of the required revisions.

In the event of U.S. EPA disapproval of the revised Support Sampling Plan, Respondents may be deemed in violation of this Order; however, approval shall not be unreasonably withheld by U.S. EPA. In such event, U.S. EPA retains the right to terminate this Order, conduct a complete Support Sampling Plan and the sampling activities, and obtain reimbursement for costs incurred in conducting the plan and the sampling activities from the Respondents.

Respondents shall not commence or undertake any support sampling activities at the Site without prior U.S. EPA approval.

2.1.1 Health and Safety Plan

As part of the EE/CA and RI/FS Support Sampling Plan, the Respondents shall submit for U.S. EPA review and comment a plan that ensures the protection of the public health and

safety during performance of on-site work under this Order. This plan shall comply with applicable Occupational Safety and Health Administration ("OSHA") regulations found at 29 CFR Part 1910. If U.S. EPA determines it is appropriate, the plan shall also include contingency planning. Respondents shall incorporate all changes to the plan recommended by U.S. EPA, and implement the plan during the pendency of the support sampling.

2.1.2 Quality Assurance and Sampling

As part of the EE/CA and RI/FS Support Sampling Plan, the Respondents shall ensure that all sampling and analyses performed pursuant to this Order conforms to U.S. EPA direction, approval, and guidance regarding sampling, quality assurance/quality control ("QA/QC"), data validation, and chain of custody procedures. Respondent(s) shall ensure that the laboratory used to perform the analyses participates in a QA/QC program that complies with U.S. EPA guidance.

Upon request by U.S. EPA, Respondent(s) shall have such a Laboratory analyze samples submitted by U.S. EPA for quality assurance monitoring. Respondent(s) shall provide to U.S. EPA the quality assurance/quality control procedures followed by all sampling teams and laboratories performing data collection and/or analysis. Respondent(s) shall also ensure provision of analytical tracking information consistent with, at a minimum, OSWER Directive No. 9240.0-2B, "Extending the Tracking of Analytical Services to PRP-Lead Superfund Sites."

Upon request by U.S. EPA, Respondent(s) shall allow U.S. EPA or its authorized representatives to take split and/or duplicate samples of any samples collected by Respondent(s) or its (their) contractors or agents while performing work under this Order. Respondent(s) shall notify U.S. EPA not less than 10 business days in advance of any sample collection activity. U.S. EPA shall have the right to take any additional samples that it deems necessary.

2.2 EE/CA Report

Within 60 calendar days after the submittal of the Data Report (Task 3 of the SOW), the Respondents shall submit to U.S. EPA for approval a draft EE/CA Report that is consistent with this Order and the SOW.

U.S. EPA may approve, disapprove, require revisions to, or modify the draft EE/CA Report. If U.S. EPA requires revisions, Respondents shall submit a revised EE/CA Report incorporating all

of U.S. EPA's required revisions within 21 calendar days of receipt of U.S. EPA's notification of the required revisions.

In the event of U.S. EPA disapproval of the revised EE/CA Report, Respondents may be deemed in violation of this Order; however, approval shall not be unreasonably withheld by U.S. EPA. In such event, U.S. EPA retains the right to terminate this Order, conduct a complete EE/CA, and obtain reimbursement for costs incurred in conducting the EE/CA from the Respondents.

The revised report shall also include the following certification signed by a person who supervised or directed the preparation of that report:

Under penalty of law, I certify that, to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of this EE/CA Report, the information submitted is true, accurate, and complete.

Respondents shall not commence or undertake any removal actions at the Site without prior U.S. EPA approval.

2.3 RI/FS Report

Within 90 calendar days after the submittal of the Data Report (Task 3 of the SOW), the Respondents shall submit to U.S. EPA for approval a draft RI/FS Report (for groundwater) that is consistent with this Order and the SOW.

U.S. EPA may approve, disapprove, require revisions to, or modify the draft RI/FS Report. If U.S. EPA requires revisions, Respondents shall submit a revised RI/FS Report incorporating all of U.S. EPA's required revisions within 21 calendar days of receipt of U.S. EPA's notification of the required revisions.

In the event of U.S. EPA disapproval of the revised RI/FS Report, Respondents may be deemed in violation of this Order; however, approval shall not be unreasonably withheld by U.S. EPA. In such event, U.S. EPA retains the right to terminate this Order, conduct a complete RI/FS, and obtain reimbursement for costs incurred in conducting the RI/FS from the Respondents.

The revised report shall also include the following certification signed by a person who supervised or directed the preparation of that report:

Under penalty of law, I certify that, to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of this RI/FS Report, the information submitted is true, accurate, and complete.

Respondents shall not commence or undertake any remedial actions at the Site without prior U.S. EPA approval.

2.4 Reporting

Respondent(s) shall submit a monthly written progress report to U.S. EPA concerning actions undertaken pursuant to this Order, beginning 30 calendar days after the effective date of this Order, until termination of this Order, unless otherwise directed in writing by the RPM. These reports shall describe all significant developments during the preceding period, including the work performed and any problems encountered, analytical data received during the reporting period, and developments anticipated during the next reporting period, including a schedule of work to be performed, anticipated problems, and planned resolutions of past or anticipated problems.

Any Respondent that owns any portion of the Site shall, at least 30 days prior to the conveyance of any interest in real property at the Site, give written notice of this Order to the transferee and written notice of the proposed conveyance to U.S. EPA and the State. The notice to U.S. EPA and the State shall include the name and address of the transferee. The party conveying such an interest shall require that the transferee will provide access as described in Section V.3 (Access to Property and Information).

2.5 Additional Work

In the event that the U.S. EPA or the Respondent(s) determine(s) that additional work is necessary to accomplish the objectives of the EE/CA Report and RI/FS Report, notification of such additional work shall be provided to the other part(y)(ies) in writing. Any additional work which Respondent(s) determine(s) to be necessary shall be subject to U.S. EPA's written approval prior to commencement of the additional work. Respondent(s) shall complete, in accordance with standards, specifications, and schedules U.S. EPA has approved, any additional work Respondent(s) has (have) proposed, and which U.S. EPA has approved in writing or that U.S. EPA has determined to be necessary, and has (have) provided written notice of pursuant to this paragraph.

3. Access to Property and Information

Respondent(s) shall provide or obtain access to the Site and off-site areas to which access is necessary to implement this Order, and shall provide access to all records and documentation related to the conditions at the Site and the actions conducted pursuant to this Order. Such access shall be provided to U.S. EPA employees, contractors, agents, consultants, designees, representatives, and State of Illinois representatives. These individuals shall be permitted to move freely at the Site and

appropriate off-site areas to which Respondent(s) have access in order to conduct actions which U.S. EPA determines to be necessary. Respondent(s) shall submit to U.S. EPA, upon receipt, the results of all sampling or tests and all other data generated by Respondent(s) or its (their) contractor(s), or on the Respondent(s) behalf during implementation of this Order.

Where work or action under this Order is to be performed in areas owned by or in possession of someone other than Respondent(s), Respondent(s) shall use its (their) best efforts to obtain all necessary access agreements within 30 calendar days after the effective date of this Order, or as otherwise specified in writing by the RPM. Respondent(s) shall immediately notify U.S. EPA within 2 business days if, after using its (their) best efforts, it is (they are) unable to obtain such agreements. Respondent(s) shall describe in writing its (their) efforts to obtain access. U.S. EPA may, in its discretion, then assist Respondent(s) in gaining access, to the extent necessary to effectuate the actions described herein, using such means as U.S. EPA deems appropriate. Respondent(s) shall reimburse U.S. EPA for all costs and attorneys fees incurred by the United States in obtaining such access.

4. Record Retention, Documentation, Availability of Information

Respondent(s) shall preserve all documents and information in their possession relating to work performed under this Order, or relating to the hazardous substances found on or released from the Site, for six years following completion of the actions required by this Order. At the end of this six year period and at least 60 days before any document or information is destroyed, Respondent(s) shall notify U.S. EPA that such documents and information are available to U.S. EPA for inspection, and upon request, shall provide the originals or copies of such documents and information to U.S. EPA. In addition, Respondent(s) shall provide copies of any such non-privileged documents and information retained under this Section at any time before expiration of the six year period at the written request of U.S. EPA.

If Respondent(s) assert a privilege in lieu of providing documents, they shall provide U.S. EPA with the following: (1) the title of the document, record, or information; (2) the date of the document, record, or information; (3) the name and title of the author of the document, record, or information; (4) the name and title of each addressee and recipient; (5) a description of the contents of the document, record, or information; and (6) the privilege asserted by Respondent(s). However, no documents, reports, or other information created or generated pursuant to the requirements of this Order shall be withheld on the grounds that they are privileged.

5. Off-Site Shipments

All hazardous substances, pollutants or contaminants removed off-site pursuant to this Order for treatment, storage or disposal shall be treated, stored, or disposed of at a facility in compliance, as determined by U.S. EPA, with the U.S. EPA Revised Off-Site Rule, 40 CFR § 300.440, 58 Federal Register 49215 (Sept. 22, 1993).

6. Compliance With Other Laws

Respondent(s) shall perform all activities required pursuant to this Order in accordance with all the requirements of all federal and state laws and regulations. U.S. EPA has determined that the activities contemplated by this Order are consistent with the National Contingency Plan ("NCP").

Except as provided in Section 121(e) of CERCLA and the NCP, no permit shall be required for any portion of the activities conducted entirely on-site. Where any portion of the activities requires a federal or state permit or approval, the Respondent(s) shall submit timely applications and take all other actions necessary to obtain and to comply with all such permits or approvals.

This Order is not, and shall not be construed to be, a permit issued pursuant to any federal or state statute or regulation.

7. Emergency Response and Notification of Releases

If any incident, or change in Site conditions, during the activities conducted pursuant to this Order causes or threatens to cause an additional release of hazardous substances from the Site or an endangerment to the public health, welfare, or the environment, the Respondent(s) shall immediately take all appropriate action to prevent, abate or minimize such release or endangerment caused or threatened by the release. Respondent(s) shall also immediately notify the RPM or, in the event of his unavailability, shall notify the Regional Duty Officer, Emergency Response Branch, Region 5 at (312) 353-2318, of the incident or Site conditions. If Respondent(s) fail(s) to respond, U.S. EPA may respond to the release or endangerment and reserve the right to recover costs associated with that response.

Respondent(s) shall submit a written report to U.S. EPA within 7 business days after each release, setting forth the events that occurred and the measures taken or to be taken to mitigate any release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release. Respondent(s) shall also comply with any other notification requirements, including those in CERCLA Section 103, 42 U.S.C. § 9603, and

Section 304 of the Emergency Planning and Community Right-To-Know Act, 42 U.S.C. § 11004.

VI. AUTHORITY OF THE U.S. EPA REMEDIAL PROJECT MANAGER

The RPM shall be responsible for overseeing the implementation of this Order. The RPM shall have the authority vested in an RPM by the NCP, including the authority to halt, conduct, or direct any activities required by this Order, or to direct any other response action undertaken by U.S. EPA or Respondent(s) at the Site. Absence of the RPM from the Site shall not be cause for stoppage of work unless specifically directed by the RPM.

VII. REIMBURSEMENT OF COSTS

Respondent(s) shall pay all past response costs, and oversight costs, of the United States related to the Site that are not inconsistent with the NCP. As soon as practicable after the effective date of this Order, U.S. EPA will send Respondent(s) a bill for "past response costs" at the Site. U.S. EPA's bill will include an Itemized Cost Summary. "Past response costs" are all costs, including, but not limited to, direct and indirect costs and interest, that the United States, its employees, agents, contractors, consultants, and other authorized representatives incurred and paid with regard to the Site prior to August 21, 1998.

In addition, U.S. EPA will send Respondent(s) a bill for "oversight costs" on an annual basis. "Oversight costs" are all costs, including, but not limited to, direct and indirect costs, that the United States incurs in reviewing or developing plans, reports and other items pursuant to this AOC. "Oversight costs" shall also include all costs, including direct and indirect costs, paid by the United States in connection with the Site between 1982 and the effective date of this AOC.

Respondent(s) shall, within 30 calendar days of receipt of a bill, remit a cashier's or certified check for the amount of the bill made payable to the "Hazardous Substance Superfund," to the following address:

U.S. Environmental Protection Agency
Superfund Accounting
P.O. Box 70753
Chicago, Illinois 60673

Respondent(s) shall, immediately, transmit a copy of the check to the Director, Superfund Division, U.S. EPA Region 5, 77 West Jackson Blvd., Chicago, Illinois, 60604-3590. Payments shall be designated as "Response Costs - Sauget Area 1 Site" and shall reference the payor(s) name and address, the EPA site

identification number (058E), and the docket number of this Order.

In the event that any payment is not made within the deadlines described above, Respondent(s) shall pay interest on the unpaid balance. Interest is established at the rate specified in Section 107(a) of CERCLA, 42 U.S.C. § 9607(a). The interest shall begin to accrue on the date of the Respondent's receipt of the bill (or for past response costs, on the effective date of this Order). Interest shall accrue at the rate specified through the date of the payment. Payments of interest made under this paragraph shall be in addition to such other remedies or sanctions available to the United States by virtue of Respondent(')(s)(') failure to make timely payments under this Section.

If any dispute over costs is resolved before payment is due, the amount due will be adjusted as necessary. If the dispute is not resolved before payment is due, Respondent(s) shall pay the full amount of the uncontested costs into the Hazardous Substance Fund as specified above on or before the due date. Within the same time period, Respondent(s) shall pay the full amount of the contested costs into an interest-bearing escrow account. Respondent(s) shall simultaneously transmit a copy of both checks to the RPM. Respondent(s) shall ensure that the prevailing party or parties in the dispute shall receive the amount upon which they prevailed from the escrow funds plus interest within 20 calendar days after the dispute is resolved.

VIII. DISPUTE RESOLUTION

The parties to this Order shall attempt to resolve, expeditiously and informally, any disagreements concerning this Order.

If the Respondent(s) object(s) to any U.S. EPA action taken pursuant to this Order, including billings for response costs, the Respondent(s) shall notify U.S. EPA in writing of its (their) objection(s) within 10 calendar days of such action, unless the objection(s) has (have) been informally resolved. This written notice shall include a statement of the issues in dispute, the relevant facts upon which the dispute is based, all factual data, analysis or opinion supporting Respondent(')(s)(') position, and all supporting documentation on which the Respondent(s) rely (hereinafter the "Statement of Position").

U.S. EPA and Respondent(s) shall within 15 calendar days of U.S. EPA's receipt of the Respondent(')(s)(') Statement of Position, attempt to resolve the dispute through formal negotiations (Negotiation Period). The Negotiation Period may be extended at the sole discretion of U.S. EPA. U.S. EPA's decision regarding an extension of the Negotiation Period shall not

constitute a U.S. EPA action subject to dispute resolution or a final Agency action giving rise to judicial review.

An administrative record of any dispute under this Section shall be maintained by U.S. EPA. The record shall include the written notification of such dispute, and the Statement of Position served pursuant to the preceding paragraph.

Any agreement reached by the parties pursuant to this Section shall be in writing, signed by all parties, and shall upon the signature by the parties be incorporated into and become an enforceable element of this Order. If the parties are unable to reach an agreement within the Negotiation Period, U.S. EPA will issue a written decision on the dispute to the Respondents. The decision of U.S. EPA shall be incorporated into and become an enforceable element of this Order upon Respondent(')(s)(') receipt of the U.S. EPA decision regarding the dispute.

Respondent(')(s)(') obligations under this Order shall not be tolled by submission of any objection for dispute resolution under this Section. Following resolution of the dispute, as provided by this Section, Respondent(s) shall fulfill the requirement that was the subject of the dispute in accordance with the agreement reached or with U.S. EPA's decision, whichever occurs. No U.S. EPA decision made pursuant to this Section shall constitute a final Agency action giving rise to judicial review.

IX. FORCE MAJEURE

Respondent(s) agree(s) to perform all requirements under this Order within the time limits established under this Order, unless the performance is delayed by a force majeure. For purposes of this Order, a force majeure is defined as any event arising from causes beyond the control of Respondent(s) or of any entity controlled by Respondent(s), including but not limited to its (their) contractors and subcontractors, that delays or prevents performance of any obligation under this Order despite Respondent(')(s)(') best efforts to fulfill the obligation. Force majeure does not include financial inability to complete the work or increased cost of performance.

Respondent(s) shall notify U.S. EPA orally within 24 hours after Respondent(s) become aware of any event that Respondent(s) contend(s) constitute a force majeure, and in writing within 7 calendar days after Respondents(s) become aware of any events which constitute a force majeure. Such notice shall: identify the event causing the delay or anticipated delay; estimate the anticipated length of delay, including necessary demobilization and re-mobilization; state the measures taken or to be taken to minimize the delay; and estimate the timetable for implementation of the measures. Respondent(s) shall take all reasonable

measures to avoid and minimize the delays. Failure to comply with the notice provision of this Section shall be grounds for U.S. EPA to deny Respondent(s) an extension of time for performance. Respondent(s) shall have the burden of demonstrating by a preponderance of the evidence that the event is a force majeure, that the delay is warranted under the circumstances, and that best efforts were exercised to avoid and mitigate the effects of the delay.

If U.S. EPA determines a delay in performance of a requirement under this Order is or was attributable to a force majeure, the time period for performance of that requirement shall be extended as deemed necessary by U.S. EPA. Such an extension shall not alter Respondent(s)(')(s) obligation to perform or complete other tasks required by the Order which are not directly affected by the force majeure.

X. STIPULATED AND STATUTORY PENALTIES

For each calendar day, or portion thereof, that Respondent(s) fail(s) to fully perform any requirement of this Order in accordance with the schedule established pursuant to this Order, Respondent(s) shall be liable as follows:

<u>Deliverable/Activity</u>	<u>Penalty For Days 1-7</u>	<u>Penalty For > 7 Days</u>
Failure to Submit a Draft Support Sampling Plan, EE/CA Report, or RI/FS Report	\$1,000/Day	\$2,500/Day
Failure to Submit a revised Support Sampling Plan, EE/CA Report, or RI/FS Report	\$1,000/Day	\$2,500/Day
Failure to Submit a Data Report	\$500/Day	\$1,000/Day
Late Submittal of Progress Reports or Other Miscellaneous Reports/Submittals	\$250/Day	\$ 500/Day
Failure to Meet any Scheduled Deadline in the Order	\$250/Day	\$ 500/Day

Upon receipt of written demand by U.S. EPA, Respondent(s) shall make payment to U.S. EPA within 20 calendar days and interest shall accrue on late payments in accordance with Section VII of this Order (Reimbursement of Costs).

Even if violations are simultaneous, separate penalties shall accrue for separate violations of this Order. Penalties accrue and are assessed per violation per day. Penalties shall accrue regardless of whether U.S. EPA has notified Respondent(s) of a violation or act of noncompliance. The payment of penalties shall not alter in any way Respondent(s)' obligation(s) to complete the performance of the work required under this Order. Stipulated penalties shall accrue, but need not be paid, during any dispute resolution period concerning the particular penalties at issue. If Respondent(s) prevail(s) upon resolution, Respondent(s) shall pay only such penalties as the resolution requires. In its unreviewable discretion, U.S. EPA may waive its rights to demand all or a portion of the stipulated penalties due under this Section.

The stipulated penalties set forth above shall not be the sole or exclusive remedy for violations of this Order. Violation of any provision of this Order may subject Respondent(s) to civil penalties of up to twenty-five thousand dollars (\$25,000) per violation per day, as provided in Section 106(b)(1) of CERCLA, 42 U.S.C. § 9606(b)(1). Respondent(s) may also be subject to punitive damages in an amount up to three times the amount of any cost incurred by the United States as a result of such violation, as provided in Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3). Should Respondent(s) violate this Order or any portion hereof, U.S. EPA may carry out the required actions unilaterally, pursuant to Section 104 of CERCLA, 42 U.S.C. § 9604, and/or may seek judicial enforcement of this Order pursuant to Section 106 of CERCLA, 42 U.S.C. § 9606.

XI. RESERVATION OF RIGHTS

Except as specifically provided in this Order, nothing herein shall limit the power and authority of U.S. EPA or the United States to take, direct, or order all actions necessary to protect public health, welfare, or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants or contaminants, or hazardous or solid waste on, at, or from the Site. Further, nothing herein shall prevent U.S. EPA from seeking legal or equitable relief to enforce the terms of this Order. U.S. EPA also reserves the right to take any other legal or equitable action as it deems appropriate and necessary, or to require the Respondent(s) in the future to perform additional activities pursuant to CERCLA or any other applicable law.

XII. OTHER CLAIMS

By issuance of this Order, the United States and U.S. EPA assume no liability for injuries or damages to persons or property resulting from any acts or omissions of Respondent(s). The United States or U.S. EPA shall not be a party or be held out as a party to any contract entered into by the Respondent(s) or its (their) directors, officers, employees, agents, successors, representatives, assigns, contractors, or consultants in carrying out activities pursuant to this Order.

Except as expressly provided in Section XIII (Covenant Not To Sue), nothing in this Order constitutes a satisfaction of or release from any claim or cause of action against the Respondent(s) or any person not a party to this Order, for any liability such person may have under CERCLA, other statutes, or the common law, including but not limited to any claims of the United States for costs, damages and interest under Sections 106(a) or 107(a) of CERCLA, 42 U.S.C. §§ 9606(a), 9607(a).

This Order does not constitute a preauthorization of funds under Section 111(a)(2) of CERCLA, 42 U.S.C. § 9611(a)(2). The Respondent(s) waive(s) any claim to payment under Sections 106(b), 111, and 112 of CERCLA, 42 U.S.C. §§ 9606(b), 9611, and 9612, against the United States or the Hazardous Substance Superfund arising out of any action performed under this Order.

No action or decision by U.S. EPA pursuant to this Order shall give rise to any right to judicial review except as set forth in Section 113(h) of CERCLA, 42 U.S.C. § 9613(h).

XIII. COVENANT NOT TO SUE

Except as otherwise specifically provided in this Order, upon issuance of the U.S. EPA notice referred to in Section XVII (Notice of Completion), U.S. EPA covenants not to sue Respondent(s) for judicial imposition of damages or civil penalties or to take administrative action against Respondent(s) for any failure to perform actions agreed to in this Order except as otherwise reserved herein.

Except as otherwise specifically provided in this Order, in consideration and upon Respondents' payment of the response costs specified in Section VIII of this Order, U.S. EPA covenants not to sue or to take administrative action against Respondent(s) under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a), for recovery of past response costs incurred by the United States in connection with this action or this Order. This covenant not to sue shall take effect upon the receipt by U.S. EPA of the payments required by Section VIII (Reimbursement of Costs).

These covenants not to sue are conditioned upon the complete and satisfactory performance by Respondents of their obligations under this Order. These covenants not to sue extend only to the Respondents and do not extend to any other person.

XIV. CONTRIBUTION PROTECTION

With regard to claims for contribution against Respondent(s) for matters addressed in this Order, the Parties hereto agree that the Respondent(s) is (are) entitled to protection from contribution actions or claims to the extent provided by Section 113(f)(2) and 122(h)(4) of CERCLA, 42 U.S.C. §§ 9613(f)(2) and 9622(h)(4).

Nothing in this Order precludes Parties from asserting any claims, causes of action or demands against any persons not parties to this Order for indemnification, contribution, or cost recovery.

XV. INDEMNIFICATION

Respondent(s) agree(s) to indemnify, save and hold harmless the United States, its officials, agents, contractors, subcontractors, employees and representatives from any and all claims or causes of action: (A) arising from, or on account of, acts or omissions of Respondent(s) and Respondent(')(s)(') officers, heirs, directors, employees, agents, contractors, subcontractors, receivers, trustees, successors or assigns, in carrying out actions pursuant to this Order; and (B) for damages or reimbursement arising from or on account of any contract, agreement, or arrangement between (any one or more of) Respondent(s), and any persons for performance of work on or relating to the Site, including claims on account of construction delays. Nothing in this Order, however, requires indemnification by Respondent(s) for any claim or cause of action against the United States based on negligent action taken solely and directly by U.S. EPA (not including oversight or approval of plans or activities of the Respondent(s)).

XVI. MODIFICATIONS

Except as otherwise specified in Section V.2 (Work To Be Performed), if any party believes modifications to any plan or schedule are necessary during the course of this project, they shall conduct informal discussions regarding such modifications with the other parties. Any agreed-upon modifications to any plan or schedule shall be memorialized in writing within 7 business days; however, the effective date of the modification shall be the date of the RPM's oral direction. Any other requirements of this Order may be modified in writing by mutual agreement of the parties. Any modification to this Order shall be incorporated into and made an enforceable part of this Order.

If Respondents seek permission to deviate from any approved plan or schedule, Respondents' Project Coordinator shall submit a written request to U.S. EPA for approval outlining the proposed modification and its basis.

No informal advice, guidance, suggestion, or comment by U.S. EPA regarding reports, plans, specifications, schedules, or any other writing submitted by the Respondents shall relieve Respondents of their obligations to obtain such formal approval as may be required by this Order, and to comply with all requirements of this Order unless it is formally modified.

XVII. NOTICE OF COMPLETION

When U.S. EPA determines that all work has been fully performed in accordance with this Order, except for certain continuing obligations required by this Order (e.g., record retention, payment of costs), U.S. EPA will provide written notice to the Respondents.

XVIII. SUBMITTALS/CORRESPONDENCE

Any notices, documents, information, reports, plans, approvals, disapprovals, or other correspondence required to be submitted from one party to another under this Order, shall be deemed submitted either when hand-delivered or as of the date of receipt by certified mail/return receipt requested, express mail, or facsimile.

Submissions to Respondents shall be addressed to:

With copies to:

Submissions to U.S. EPA shall be addressed to:

Michael McAteer
U.S. EPA - Region 5
77 West Jackson Boulevard (SR-6J)
Chicago, Illinois 60604-3590

With copies to:

Thomas Martin
Associate Regional Counsel
U.S. EPA - Region 5
77 West Jackson Boulevard (C-14J)
Chicago, Illinois 606064-3590

Submissions to Illinois shall be addressed to:

Paul Takacs
Illinois Environmental Protection Agency
Remedial Project Management Section
Division of Land Pollution Control
1021 N. Grand Avenue E.
P.O. Box 19276
Springfield, Illinois 62794-9276

XIX. SEVERABILITY

If a court issues an order that invalidates any provision of this Order or finds that Respondents have sufficient cause not to comply with one or more provisions of this Order, Respondents shall remain bound to comply with all provisions of this Order not invalidated by the court's order.

XX. EFFECTIVE DATE

This Order shall be effective upon signature by the Director, Superfund Division, U.S. EPA Region 5.

IN THE MATTER OF:

SAUGET AREA 1 SITE

SAUGET AND CAHOKIA, ILLINOIS

SIGNATORIES

Each undersigned representative of a signatory to this Administrative Order on Consent certifies that he or she is fully authorized to enter into the terms and conditions of this Order and to bind such signatory, its directors, officers, employees, agents, successors and assigns, to this document.

Agreed this _____ day of _____, 1998.

By _____

IT IS SO ORDERED AND AGREED

BY: _____
William E. Muno, Director
Superfund Division
United States Environmental Protection Agency
Region 5

DATE: _____

SCOPE OF WORK FOR ENGINEERING EVALUATION/COST ANALYSIS
AND
STREAMLINED REMEDIAL INVESTIGATION AND FEASIBILITY STUDY
AT
SAUGET AREA 1 SITE
SAUGET AND CAHOKIA, ILLINOIS

PURPOSE:

The purpose of this Scope of Work (SOW) is to set forth requirements for the preparation of an Engineering Evaluation/Cost Analysis (EE/CA) and a streamlined Remedial Investigation and Feasibility Study (RI/FS). The EE/CA shall evaluate alternatives for conducting removal actions on the Sauget Area 1 source areas (Sites I, H, G, L, M and N) and the impacted portions of Area 1 (Dead Creek Segments CS-A, CS-B, CS-C, CS-D, CS-E, CS-F and any possibly contaminated residential/commercial properties near these creek segments). The RI shall evaluate the impact to groundwater resulting from the disposal/deposition of contaminants in Sauget Area 1 and also assess the risk from this contamination on human health and the environment. The FS Report shall evaluate alternatives for addressing the impact to human health and/or the environment from contaminated groundwater. The EE/CA shall be conducted, at a minimum, consistent with U.S. EPA guidance entitled, "Guidance on Conducting Non-Time critical Removal Actions Under CERCLA," EPA/540-R-93-057, Publication 9360.32, PB 93-963402, dated August 1993 (Guidance). The RI and FS Reports shall be conducted, at a minimum, consistent with the "Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA" (U.S. EPA, Office of Emergency and Remedial Response, October, 1988) and any other guidances that U.S. EPA uses in conducting a RI/FS, as well as any additional requirements in the administrative order. The Respondents shall furnish all personnel, materials, and services necessary for, or incidental to, performing the EE/CA and the RI/FS at the Sauget Area 1 Site, except as otherwise specified herein.

At the completion of the EE/CA and RI/FS, U.S. EPA will be responsible for the selection of a removal action and Site remedy for groundwater and will document the selections in an Action Memorandum for the removal and a Record of Decision (ROD) for groundwater. The removal and remedial actions selected by U.S. EPA will meet the cleanup standards specified in CERCLA Section 121. That is, the selected removal and remedial actions will be protective of human health and the environment, will be in compliance with, or include a waiver of, applicable or relevant and appropriate requirements of other laws, will be cost-effective, will utilize permanent solutions and alternative treatment technologies or resource recovery technologies, to the maximum extent practicable, and will address the statutory preference for treatment as a principal element. The final EE/CA and RI/FS reports, as adopted by U.S. EPA, and the risk evaluation/assessment will, with the administrative record, form the basis for the selection of the site's remedy and will provide the information necessary to support the development of the Action Memorandum and ROD.

As specified in CERCLA Section 104(a)(1), as amended by SARA, U.S. EPA will provide oversight of the Respondents' activities throughout the EE/CA and RI/FS, including all field sampling activities. The Respondents will support U.S. EPA's initiation and conduct of activities related to the implementation of oversight activities.

SCOPE:

The tasks to be completed as part of this EE/CA and RI/FS are:

- Task 1. EE/CA and RI/FS Support Sampling Plan
- Task 2. EE/CA and RI/FS Support Sampling
- Task 3. Data Report
- Task 4. EE/CA
- Task 5. RI/FS
- Task 6. Progress Reports

TASK 1: EE/CA AND RI/FS SUPPORT SAMPLING PLAN

Within 30 calendar days of the effective date of the Administrative Order, Respondents shall submit a Sampling Plan to U.S. EPA and Illinois EPA that addresses all data acquisition activities. The objective of this EE/CA and RI/FS support sampling is to further determine the extent of contamination at the Site beyond that already identified by previous site investigations. The plan shall contain a description of equipment specifications, required analyses, sample types, and sample locations and frequency. The plan shall address specific hydrologic, hydrogeologic, and air transport characterization methods including, but not limited to, geologic mapping, geophysics, field screening, drilling and well installation, flow determination, and soil/water/sediment/sludge/waste sampling to determine extent of contamination.

Respondents shall identify the data requirements of specific remedial technologies that may be necessary to evaluate removal and remedial activities in the EE/CA and the RI/FS and the Respondents shall provide a schedule stating when events will take place and when deliverables will be submitted.

The EE/CA and RI/FS Support Sampling Plan shall include the following information:

A. Site Background

A brief summary of the Site location, general Site physiography, hydrology and geology shall be included. A description of the data already available shall be included which will highlight the areas of known contamination and the levels detected. Tables

shall be included to display the minimum and maximum levels of detected contaminants across the Site.

B. Data Gap Description

Respondents shall make an analysis of the currently available data to determine the areas of the Site which require additional data in order to define the extent of contamination for purposes of implementing a removal action on the source areas and Dead Creek and for implementing a remedial action for groundwater. A description of the number, types, and locations of additional samples to be collected shall be included in this section of the sampling plan.

Descriptions of the following activities shall also be included:

i. **Waste Characterization**

Respondents shall include a program for characterizing the waste materials at the Site. This shall include an analysis of current information/data on past disposal practices at the Site. For buried wastes, test pits/trenches and deep soil borings shall be proposed in the plan to determine waste depths and volume and to determine the extent of cover over fill areas. Soil gas surveys shall also be proposed for the areas on and around fill areas of the site. Geophysical characterization methods, such as ground penetrating radar or magnetometry, to further delineate potential "hot spot" drum removal areas shall also be included.

ii. **Hydrogeologic Investigation**

The plan shall include the degree of hazard, the mobility of pollutants, discharges/recharge areas, regional and local flow direction and quality, and local uses of groundwater. The plan shall also develop a strategy for determining horizontal and vertical distribution of contaminants and may include other hydraulic tests such as slug tests, and grain size analysis to assist in determining future potential remediation options. Upgradient samples shall be included in the plan.

iii. **Soils and Sediments Investigation**

Respondents shall include a program to determine the extent of contamination of surface and subsurface soils at the Site. The plan shall also determine the extent, including depth, of contamination of sediments in all segments of Dead Creek and its tributaries and surrounding wetland areas. Samples of any leachate from the areas described as fill shall also be collected. The plan shall also include a proposal for conducting soil sampling from the residential/commercial areas adjacent to Dead Creek.

- iv. Surface Water Investigation
Respondents shall include a program to determine the areas of surface water contamination in Dead Creek and its tributaries and surrounding wetland areas.
- v. Air Investigation
Respondents shall include a program to determine the extent of atmospheric contamination from the various source areas at the Site. The program shall address the tendency of the substances identified through the waste characterization (i.e., PCBs) to enter the atmosphere, local wind patterns, and the degree of hazard.
- vi. Ecological Assessment
Respondents shall include a plan for collecting data for the purpose of assessing the impact to aquatic and terrestrial ecosystems within and adjacent to Sauget Area 1 as a result of the disposal, release and migration of contaminants. The plan shall include a description of the ecosystems affected, an evaluation of toxicity, an assessment of endpoint organisms, and the exposure pathways. The plan shall also include a description of any toxicity testing or trapping to be included as part of the assessment. The ecological assessment shall be conducted in accordance with U.S. EPA guidance, including Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments (June 5, 1997; EPA 540-R-97-006).
- vii. Pilot Tests
Respondents shall include a program for any pilot test(s) necessary to determine the implementability and effectiveness of technologies where sufficient information is not otherwise available.

C. Sampling Procedures

Respondents shall include a description of the depths of sampling, parameters to be analyzed, equipment to be used, decontamination procedures to be followed, sample quality assurance, data quality objectives and sample management procedures to be utilized in the field. All sampling and analyses performed shall conform to U.S. EPA direction, approval, and guidance regarding sampling, quality assurance/quality control ("QA/QC"), data validation, and chain of custody procedures. Respondents shall ensure that the laboratory used to perform the analyses participates in a QA/QC program that complies with U.S. EPA guidance.

Upon request by U.S. EPA, Respondents shall have such a laboratory analyze samples submitted by U.S. EPA for quality assurance monitoring. Respondents shall provide to

U.S. EPA the quality assurance/quality control (QA/QC) procedures followed by all sampling teams and laboratories performing data collection and/or analysis. Respondents shall also ensure provision of analytical tracking information consistent with OSWER Directive No. 9240.0-2B, Extending the Tracking of Analytical Services to PRP-Lead Superfund Sites.

Upon request by U.S. EPA, Respondents shall allow U.S. EPA or its authorized representatives to take split and/or duplicate samples of any samples collected by Respondents or their contractors or agents. Respondents shall notify U.S. EPA not less than 10 business days in advance of any sample collection activity. U.S. EPA shall have the right to take any additional samples that it deems necessary.

D. Health and Safety Plan

Respondents shall prepare a Site safety plan which is designed to protect on-site personnel, area residents and nearby workers from physical, chemical and all other hazards posed by this sampling event. The safety plan shall develop the performance levels and criteria necessary to address the following areas:

- General requirements
- Personnel
- Levels of protection
- Safe work practices and safe guards
- Medical surveillance
- Personal and environmental air monitoring
- Personal hygiene
- Decontamination - personal and equipment
- Site work zones
- Contaminant control
- Contingency and emergency planning (including response to fires/explosions)
- Logs, reports and record keeping

The safety plan shall, at a minimum, follow U.S. EPA guidance document Standard Operating Safety Guides (Publication 9285.1-03, PB92-963414, June 1992), and all OSHA requirements as outlined in 29 CFR 1910.

E. Schedule

Respondents shall include a schedule which identifies timing for initiation and completion of all tasks to be completed as part of this EE/CA and RI/FS Support Sampling Plan.

TASK 2: EE/CA AND RI/FS SUPPORT SAMPLING

Respondents shall conduct the EE/CA and RI/FS Support Sampling activity according to the U.S. EPA approved Sampling Plan and schedule. Respondents shall coordinate activities with U.S. EPA's Remedial Project Manager (RPM). Respondents shall provide the RPM with all laboratory data.

TASK 3: DATA REPORT

According to the U.S. EPA-approved schedule in the EE/CA and RI/FS Support Sampling Plan, a report, in table-form with corresponding figures, shall be provided by Respondents to U.S. EPA and Illinois EPA. This report shall summarize the sampling results from the EE/CA and RI/FS Support Sampling. The results of all pilot tests shall also be included in the Data Report. If requested, copies of all raw data shall be provided by Respondents to U.S. EPA for a validation check.

TASK 4: ENGINEERING EVALUATION/COST ANALYSIS REPORT (EE/CA)

Within 60 calendar days of the submittal of the Data Report (Task 3), Respondents shall submit to U.S. EPA for approval a draft EE/CA report addressing Sites I, H, G, L, M, N and Dead Creek Segments CS-A through CS-F. The EE/CA shall be consistent with the administrative order and this SOW. The EE/CA shall be completed in accordance with the following requirements:

- 1 Executive Summary
- 2 Site Characterization
 - 2.1 Site Description and Background
 - 2.1.1 Site Location and Physical Setting
 - 2.1.2 Geology/Hydrology/Hydraulics
 - 2.1.3 Surrounding Land Use and Populations
 - 2.1.4 Sensitive Ecosystems
 - 2.1.5 Meteorology/Climatology
 - 2.2 Previous Removal/Remedial Actions
 - 2.3 Source, Nature, and Extent of Contamination

- 2.4 Analytical Data
 - 2.5 Streamlined Risk Evaluation
 - 2.6 Ecological Risk Assessment
- 3 Identification of Removal Action Objectives
 - 3.1 Determination of Removal Scope
 - 3.2 Determination of Removal Schedule
 - 3.3 Identification of and Compliance with ARARs
 - 3.4 Planned Remedial Activities
- 4 Identification and Analysis of Removal Action Alternatives
- 5 Detailed Analysis of Alternatives
 - 5.1 Effectiveness
 - 5.1.1 Overall Protection of Public Health and the Environment
 - 5.1.2 Compliance with ARARs and Other Criteria, Advisories, and Guidance
 - 5.1.3 Long-Term Effectiveness and Permanence
 - 5.1.4 Reduction of Toxicity, Mobility, or Volume Through Treatment
 - 5.1.5 Short-Term Effectiveness
 - 5.2 Implementability
 - 5.2.1 Technical Feasibility
 - 5.2.2 Administrative Feasibility
 - 5.2.3 Availability of Services and Materials
 - 5.2.4 State and Community Acceptance
 - 5.3 Cost
 - 5.3.1 Direct Capital Costs
 - 5.3.2 Indirect Capital Costs
 - 5.3.3 Long-Term Operation and Maintenance
- 6 Comparative Analysis of Removal Action Alternatives
- 7 Schedule for EE/CA Submission

EE/CA Outline:

1 Executive Summary

The Executive Summary shall provide a general overview of the contents of the EE/CA. It shall contain a brief discussion of the Site and the current and/or potential threat posed by conditions at the Site. It shall also identify the scope and objectives of the removal action and the alternatives.

2 Site Characterization

The EE/CA shall summarize available data on the physical, demographic, and other characteristics of the Site and the surrounding areas. Specific topics which shall be addressed *in the site characterization* are detailed below. The site characterization shall concentrate on those characteristics necessary to evaluate and select an appropriate remedy.

2.1 Site Description and Background

The site description includes current and historical information. The following types of information shall be included, where available and as appropriate, to the site-specific conditions and the scope of the removal action.

- 2.1.1 Site Location and Physical Setting
- 2.1.2 Present and Past Facility Operations and Disposal Practices
(including incidents of fire and explosions)
- 2.1.3 Geology/Hydrology/Hydraulics
- 2.1.4 Surrounding Land Use and Populations
- 2.1.5 Sensitive Ecosystems
- 2.1.6 Meteorology/Climatology

2.2 Previous Removal Actions

The site characterization section shall also describe any previous removal and remedial actions at the Site. Previous information, if relevant, shall be organized as follows:

- * The scope and objectives of the previous removal action(s)
- * The amount of time spent on the previous removal action(s)
- * The nature and extent of hazardous substances, pollutants, or contaminants treated or controlled during the previous removal action(s) (including all monitoring conducted)
- * The technologies used and/or treatment levels used for the previous removal action(s).

2.3 Source, Nature and Extent of Contamination

This section shall summarize the available site characterization data for Sauget Area 1, including the locations of the hazardous substances, pollutants, or contaminants; the quantity, volume, size or magnitude of the contamination; and the physical and chemical attributes of the hazardous pollutants or contaminants.

2.4 Analytical Data

This section shall present the available data, including, but not limited to, soil, groundwater, surface water, sediments, and air. This section should discuss any historical data gaps that were identified, and the measures taken to develop all necessary additional data.

2.5 Streamlined Risk Evaluation

The risk evaluation shall focus on actual and potential risks to persons coming into contact with on-site contaminants as well as risks to the surrounding residential and industrial worker population from exposure to contaminated soils, sediments, surface water, air, and ingestion of contaminated organisms in surrounding impacted ecosystems. Reasonable maximum estimates of exposure shall be defined for both current land use conditions and reasonable future land use conditions. It shall use data from the Site to identify the chemicals of concern, provide an estimate of how and to what extent human receptors might be exposed to these chemicals, and provide an assessment of the health effects associated with these chemicals. The evaluation shall project the potential risk of health problems occurring if no cleanup action is taken at the Site. The risk evaluation shall be conducted in accordance with U.S. EPA guidance including, at a minimum: Risk Assessment Guidance for Superfund (RAGS) (EPA/540/1-89/002, December 1989) and RAGS Part D (EPA 540/R/97/033, January 1998).

2.6 Ecological Risk Assessment

The ecological risk assessment shall be conducted in accordance with U.S. EPA guidance including, at a minimum: Ecological Risk Assessment Guidance for Superfund, Process for Designing and Conducting Ecological Risk Assessments, (EPA/540/R/97/006, June 1997).

The ecological risk assessment shall describe the data collection activities conducted as part of Task 1(B)(vi) as well as the following information:

- Hazard Identification (sources). The Respondents shall review available information on the hazardous substances present at and adjacent to the Site and identify the major contaminants of concern.
- Dose-Response Assessment. Contaminants of concern should be selected based on their intrinsic toxicological properties.
- Prepare Conceptual Exposure/Pathway Analysis.
- Characterization of Site and Potential Receptors.
- Select Chemicals, Indicator Species, and End Points. In preparing the assessment, the shall select representative chemicals, indicator species (species that are especially sensitive to environmental contaminants), and end points on which to concentrate.
- Exposure Assessment. The exposure assessment will identify the magnitude of actual exposures, the frequency and duration of these exposures, and the routes by which receptors are exposed. The exposure assessment shall include an evaluation of the likelihood of such exposures occurring and shall provide the basis for the development of acceptable exposure levels.
- Toxicity Assessment/Ecological Effects Assessment. The toxicity and ecological effects assessment will address the types of adverse environmental effects associated with chemical exposures, the relationships between magnitude of exposures and adverse effects, and the related uncertainties for contaminant toxicity (e.g., weight of evidence for a chemical's carcinogenicity).
- Risk Characterization. During risk characterization, chemical-specific toxicity information, combined with quantitative and qualitative information from the exposure assessment, shall be compared to measured levels of contaminant exposure levels and the levels predicted through environmental fate and transport modeling. These comparisons shall determine whether concentrations of contaminants at or near the Site are affecting or could potentially affect the environment.
- Identification of Limitations/Uncertainties. Respondents shall identify critical assumptions (e.g., background concentrations and conditions) and uncertainties in the report.

3 Identification of Removal Action Objectives

The EE/CA shall develop removal action objectives, taking into consideration the following factors:

- * Prevention or abatement of actual or potential exposure to nearby human populations, (including workers), animals, or the food chain from hazardous substances, pollutants, or contaminants;
- * Prevention or abatement of actual or potential contamination of drinking water supplies and ecosystems;
- * Stabilization or elimination of hazardous substances in drums, barrels, tanks, or other bulk storage containers that may pose a threat of release;
- * Treatment or elimination of high levels of hazardous substances, pollutants, or contaminants in soils or sediments largely at or near the surface that may migrate;
- * Elimination of threat of fire or explosion;
- * Acceptable chemical-specific contaminant levels, or range of levels, for all exposure routes.
- * Mitigation or abatement of other situations or factors that may pose threats to public health, welfare, or the environment.

3.1 Determination of Removal Scope

The EE/CA shall define the broad scope and specific objectives of the removal action and address the protectiveness of the removal action. The EE/CA shall discuss how the goals of the removal action are consistent with any potential long-term remediation.

3.2 Determination of Removal Schedule

The general schedule for removal activities shall be developed, including both the start and completion time for the removal action.

4 Identification and Analysis of Removal Action Alternatives

Based on the analysis of the nature and extent of contamination and on the cleanup objectives developed in the previous section, a limited number of alternatives appropriate for

addressing the removal action objectives shall be identified and assessed. Whenever practicable, the alternatives shall also consider the CERCLA preference for treatment over conventional containment or land disposal approaches.

Based on the available information, only the most qualified technologies that apply to the media or source of contamination shall be discussed in the EE/CA. The use of presumptive remedy guidance, if appropriate and applicable to any of the disposal areas of the Sauget Area 1 Site, may also provide an immediate focus to the identification and analysis of alternatives. This guidance includes, but is not limited to: Implementing Presumptive Remedies (EPA 540-R-97-029, October 1997). Presumptive remedies involve the use of remedial technologies that have been consistently selected at similar sites or for similar contamination.

A limited number of alternatives, including any identified presumptive remedies, shall be selected for detailed analysis. Each of the alternatives shall be described with enough detail so that the entire treatment process can be understood. Technologies that may apply to the media or source of contamination shall be listed in the EE/CA.

The preliminary list of alternatives to address the Sauget Area 1 Site shall consist of, but is not limited to, treatment technologies (i.e., thermal methods), removal and off-site treatment/disposal and an on-site disposal option for soils, sediments and wastes. Respondents shall also evaluate alternatives that will prevent future flooding of residential/commercial areas within the site area. A "No Action" alternative shall not be included for evaluation in the EE/CA.

5 Detailed Analysis of Alternatives

Defined alternatives are evaluated against the short- and long-term aspects of three broad criteria: effectiveness, implementability, and cost.

5.1 Effectiveness

The effectiveness of an alternative refers to its ability to meet the objective regarding the scope of the removal action. The "Effectiveness" discussion for each alternative shall evaluate the degree to which the technology would mitigate threats to public health and the environment. Criteria to be considered include:

5.1.1 Overall Protection of Public Health and the Environment

How well each alternative protects public health and the environment shall be discussed in a consistent manner. Assessments conducted under other evaluation criteria, including long-term effectiveness and permanence, short-term effectiveness, and compliance with ARARs shall be included in the

discussion. Any unacceptable short-term impacts shall be identified. The discussion shall focus on how each alternative achieves adequate protection and describe how the alternative will reduce, control, or eliminate risks at the Site through the use of treatment, engineering, or institutional controls.

5.1.2 Compliance with ARARs and Other Criteria, Advisories, and Guidance

The detailed analysis shall summarize which requirements are applicable or relevant and appropriate to an alternative and describe how the alternative meets those requirements. A summary table may be employed to list potential ARARs. In addition to ARARs, other Federal or State advisories, criteria, or guidance to be considered (TBC) may be identified.

5.1.3 Long-Term Effectiveness and Permanence

This evaluation assesses the extent and effectiveness of the controls that may be required to manage risk posed by treatment residuals and/or untreated wastes at the Site. The following components shall be considered for each alternative: magnitude of risk, and, adequacy and reliability of controls.

5.1.4 Reduction of Toxicity, Mobility, or Volume Through Treatment

Respondents' analysis shall address U.S. EPA's policy of preference for treatment including an evaluation based upon the following subfactors for a particular alternative:

- * The treatment process(es) employed and the material(s) it will treat
- * The amount of the hazardous or toxic materials to be destroyed or treated
- * The degree of reduction expected in toxicity, mobility, or volume
- * The degree to which treatment will be irreversible
- * The type and quantity of residuals that will remain after treatment
- * Whether the alternative will satisfy the preference for treatment

5.1.5 Short-Term Effectiveness

The short-term effectiveness criterion addresses the effects of the alternative during implementation before the removal objectives have been met. Alternatives shall also be evaluated with respect to their effects on human health and the environment following implementation. The following factors shall be addressed as appropriate for each alternative:

- * Protection of the Community
- * Protection of the Workers

- * Environmental Impacts
- * Time Until Response Objectives are Achieved

5.2 Implementability

This section is an assessment of the implementability of each alternative in terms of the technical and administrative feasibility and the availability of the goods and services necessary for each alternative's full execution. The following factors shall be considered under this criterion:

5.2.1 Technical Feasibility

The degree of difficulty in constructing and operating the technology; the reliability of the technology, the availability of necessary services and materials; the scheduling aspects of implementing the alternatives during and after implementation; the potential impacts on the local community during construction operation; and the environmental conditions with respect to set-up and construction and operation shall be described. Potential future remedial and/or removal actions shall also be discussed. The ability to monitor the effectiveness of the alternatives may also be described.

5.2.2 Administrative Feasibility

The administrative feasibility factor evaluates those activities needed to coordinate with other offices and agencies. The administrative feasibility of each alternative shall be evaluated, including the need for off-site permits, adherence to applicable nonenvironmental laws, and concerns of other regulatory agencies. Factors that shall be considered include, but are not limited to, the following: statutory limits, permits and waivers.

5.2.3 Availability of Services and Materials

The EE/CA must determine if off-site treatment, storage, and disposal capacity, equipment, personnel, services and materials, and other resources necessary to implement an alternative shall be available in time to maintain the removal schedule.

5.2.4 State and Community Acceptance

State and Community Acceptance will be considered by U.S. EPA before a final removal action is decided upon. Respondents need only mention in the EE/CA that U.S. EPA will consider and address State and community

acceptance of an alternative when making a recommendation and in the final selection of the alternative in the Action Memorandum.

5.3 Cost

Each alternative shall be evaluated to determine its projected costs. The evaluation should compare each alternative's capital and operation and maintenance costs. The present worth of alternatives should be calculated.

5.3.1 Direct Capital Costs

Costs for construction, materials, land, transportation, analysis of samples, treatment shall be presented.

5.3.2 Indirect Capital Costs

Cost for design, legal fees, permits shall be presented.

5.3.3 Long-Term Operation and Maintenance Costs

Costs for maintenance and long-term monitoring shall be presented.

6 Comparative Analysis of Removal Action Alternatives

Once removal action alternatives have been described and individually assessed against the evaluation criteria described in Section 5, above, a comparative analysis shall be conducted to evaluate the relative performance of each alternative in relation to each of the criteria. The purpose of the analysis shall be to identify advantages and disadvantages of each alternative relative to one another so that key trade offs that would affect the remedy selection can be identified.

7 Schedule for EE/CA Submission

Within 10 business days of the submittal of the Data Report (Task 3), Respondents shall present at a meeting the alternatives to undergo a more detailed analysis. A draft EE/CA shall be submitted to U.S. EPA and Illinois EPA within 60 calendar days of the submittal date of the Data Report (Task 3). The amended EE/CA, if required, shall be submitted to U.S. EPA and Illinois EPA within 21 calendar days of the receipt of U.S. EPA's comments on the draft EE/CA.

At the completion of the EE/CA, U.S. EPA will be responsible for the selection of a removal action and will document the selection in an Action Memorandum. The final EE/CA report, as

adopted by U.S. EPA, and the risk evaluation will, with the administrative record, form the basis for the selection of the removal action and will provide the information necessary to support the development of the Action Memorandum.

TASK 5: RI/FS (GROUND WATER)

Respondents shall prepare and submit to U.S. EPA and Illinois EPA a combined RI and FS report for groundwater at Sauget Area 1 Site within 90 calendar days of submittal of the Data Report (Task 3).

1 Remedial Investigation Report (RI)

The RI Report shall accurately describe the vertical and horizontal extent as well as the concentrations of groundwater contamination.

The RI Report for groundwater shall include the following information:

Site Background:

Respondents shall assemble and review available facts about the regional groundwater conditions and uses specific to the Site and the surrounding area.

Summary Information on Investigations

- Field Investigation & Technical Approach
- Chemical Analysis & Analytical Methods
- Monitoring Well Installation
- Groundwater Sampling
- Hydrogeological Assessment

Site Characteristics.

- Geology
- Hydrology
- Hydrogeology
- Meteorology/Climatology
- Demographics and Land Use
- Current and past groundwater usage in the site area

Nature and Extent of Contamination

- Contaminant Sources
- Groundwater Contaminant Distribution and Trends

Fate and Transport

- Contaminant Characteristics
- Groundwater Fate and Transport Processes
- Groundwater Contaminant Migration Trends
- Groundwater Modeling

Summary and Conclusions

2 Risk Assessment for Ground Water

Using the groundwater data and findings (including data from previous assessments as appropriate), Respondents shall conduct a Risk Assessment to determine to what extent Site contaminants in groundwater pose a current or potential risk to human health and the environment (via groundwater discharges to surface water). The Risk Assessment shall include the following elements:

- Hazard Identification (sources). The Respondents shall review available information on the hazardous substances present at the Site and identify the major contaminants of concern.
- Dose-Response Assessment. Contaminants of concern should be selected based on their intrinsic toxicological properties.
- Conceptual Exposure/Pathway Analysis.
- Characterization of Site and Potential Receptors.
- Exposure Assessment. Respondents shall develop reasonable maximum estimates of exposure for both current land use conditions and potential land use conditions at the Site.
- Risk Characterization.
- Identification of Limitations/Uncertainties.

3 Establish Remedial Action Objectives.

Based on existing information, Respondents shall identify site-specific remedial action objectives for groundwater which should be developed to protect human health and the environment. The objectives shall specify the contaminant(s) and media of concern, the

exposure route(s) and receptor(s), and an acceptable contaminant level or range of levels for each exposure route.

4 Feasibility Study (FS)

Respondents shall evaluate alternatives that will remediate or control contaminated ground water at the Site, as deemed necessary in the RI and Risk Assessment, to provide adequate protection of human health and the environment. The potential alternatives should encompass, as appropriate, a range of alternatives in which treatment and/or containment is used to reduce the toxicity, mobility, and volume of contaminated groundwater. A monitored natural attenuation alternative, if appropriate, may also be evaluated in the report.

Respondents shall conduct a detailed evaluation of alternatives for ground water. The evaluation shall include: 1) a technical description of each alternative that outlines the strategy involved and identifies the key ARARs associated with each alternative; and 2) a discussion that profiles the performance of that alternative with respect to each of the evaluation criteria. Respondents shall include a table summarizing the results of this analysis. The evaluation criteria are as follows:

Overall Protection of Human Health and the Environment addresses whether or not a remedy provides adequate protection and describes how risks posed through each pathway are eliminated, reduced, or controlled through treatment, engineering controls, or institutional controls.

Compliance with ARARs addresses whether or not a remedy will meet all of the applicable or relevant and appropriate requirements of other Federal and State environmental statutes and/or provide grounds for invoking a waiver. A separate table should be included in the FS report that details all Federal and State ARARs for groundwater.

Long-Term Effectiveness and Permanence refers to the ability of a remedy to maintain reliable protection of human health and the environment over time once cleanup goals have been met.

Reduction of Toxicity, Mobility, or Volume Through Treatment is the anticipated performance of the treatment technologies a remedy may employ.

Short-Term Effectiveness addresses the period of time needed to achieve protection and any adverse impacts on human health and the environment that may be posed during the construction and implementation period until cleanup goals are achieved.

Implementability is the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement a particular option.

Cost includes estimated capital and operation and maintenance costs, and net present worth costs.

State Acceptance Respondents need only mention in the FS that U.S. EPA will consider and address Illinois EPA acceptance of an alternative when making a recommendation and in the final selection of a remedy in the ROD..

Community Acceptance Respondents need only mention in the FS that U.S. EPA will consider and address community acceptance of an alternative when making a recommendation and in the final selection of a remedy in the ROD.

Following U.S. EPA approval of the RI/FS for groundwater, U.S. EPA will issue a Proposed Plan to the public wherein U.S. EPA will propose one, or a combination, of the alternatives evaluated in the FS. Public comments will be solicited and evaluated before U.S. EPA makes a final decision on a groundwater remediation plan. The final decision will be documented in the ROD for the Sauget Area 1 Site.

TASK 6: PROGRESS REPORTS

Respondents shall submit a monthly written progress report to U.S. EPA and Illinois EPA concerning actions undertaken pursuant to the Order and this SOW, beginning 30 calendar days after the effective date of the Order, until termination of the Order, unless otherwise directed in writing by the RPM. These reports shall describe all significant developments during the preceding period, including the work performed and any problems encountered, analytical data received during the reporting period, and developments anticipated during the next reporting period, including a schedule of work to be performed, anticipated problems, and planned resolutions of past or anticipated problems.

SCHEDULE FOR MAJOR DELIVERABLES

Deliverable	Deadline
TASK 1: Draft EE/CA & RI/FS Support Sampling Plan	30 calendar days after effective date of Order
TASK 1: Final EE/CA & RI/FS Support Sampling Plan	21 calendar days after receipt of U.S. EPA comments

TASK 3: Data Report	In accordance with U.S. EPA approved schedule in Support Sampling Plan
TASK 4: Draft EE/CA Report	60 calendar days after submittal of Data Report (Task 3)
TASK 4: Final EE/CA Report	21 calendar days after receipt of U.S. EPA comments on draft EE/CA
TASK 5: Draft RI/FS Report	90 calendar days after submittal of Data Report (Task 3)
TASK 5: Final RI/FS Report	21 calendar days after receipt of U.S. EPA comments on draft RI/FS
TASK 6: Monthly Progress Reports	10th business day of each month (Commencing 30 days after effective date of Order)
Miscellaneous Documents	In accordance with submittal date provided by RPM

St Louis

